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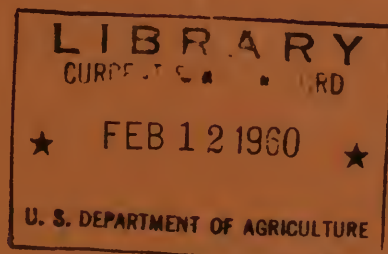
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L'ANGUILLE RIVER BASIN PROJECT

(L'Anguille River, Brushy Creek, and First Creek)

— ARIS —
MISSISSIPPI RIVER AND TRIBUTARIES



✓
SOIL CONSERVATION SERVICE
Little Rock, Arkansas

L'ANGUILLE RIVER BASIN PROJECT

(ARKANSAS)

MISSISSIPPI RIVER AND TRIBUTARIES PROJECT REVIEW

A REPORT ON

PRESENT AND ANTICIPATED AGRICULTURAL CONDITIONS

Prepared by The
U.S. Department of Agriculture for the Mississippi River Commission

Soil Conservation Service
Little Rock, Arkansas
June, 1957
Revised November, 1957

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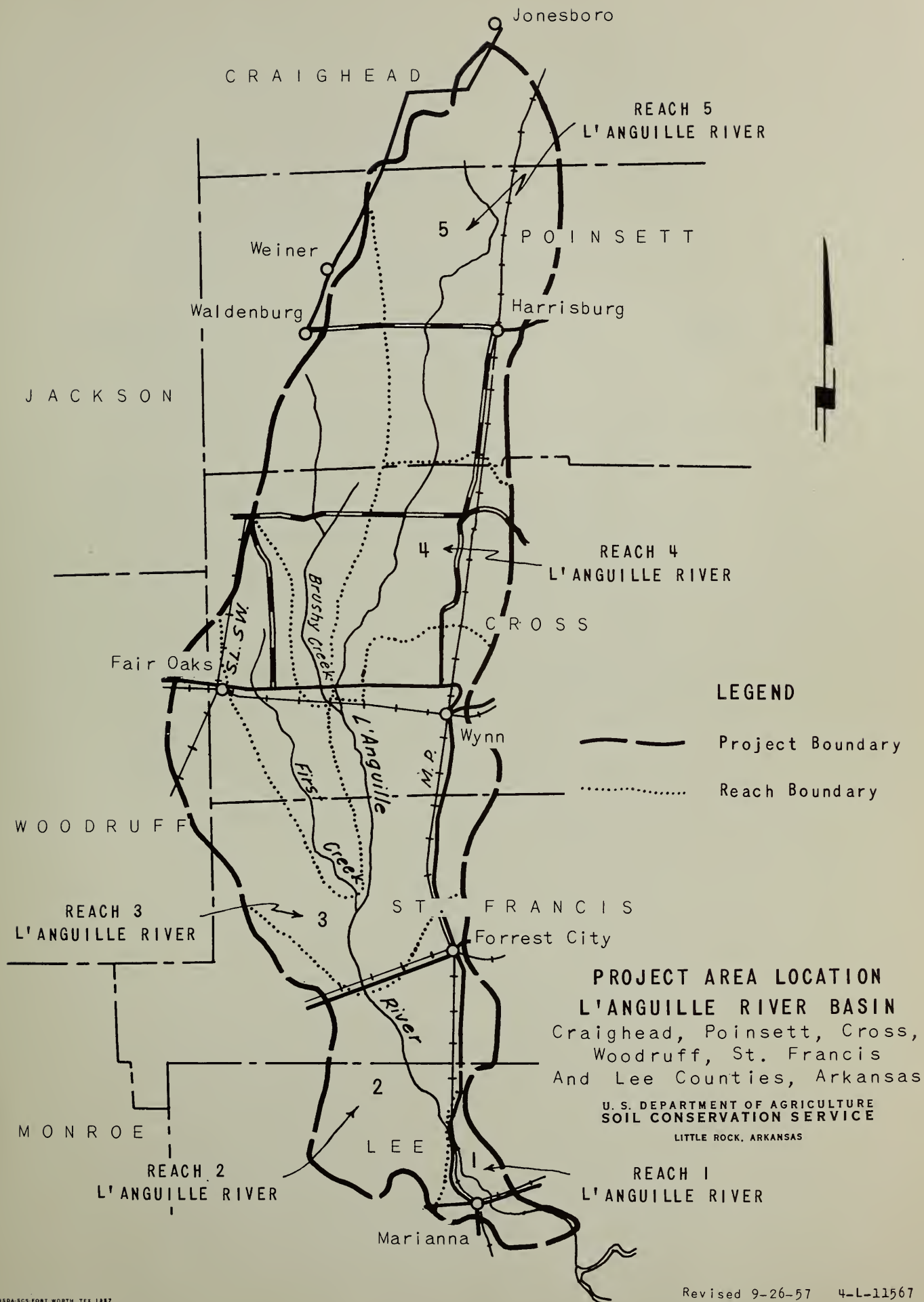
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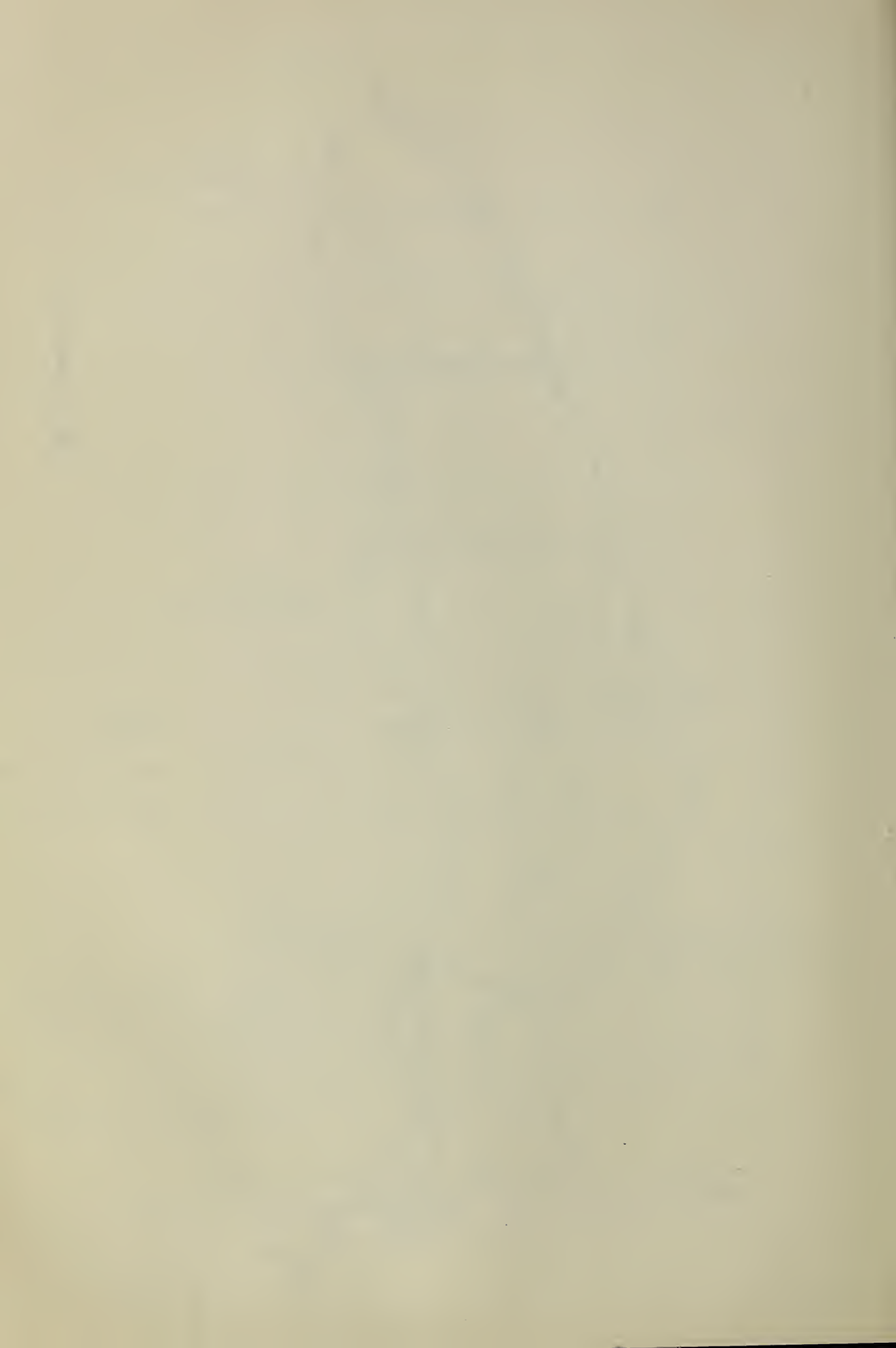


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AUTHORITY

This report has been prepared by the Soil Conservation Service, U. S. Department of Agriculture, covering studies made under Section 6, Public Law 566, 83d Congress and upon request of the Mississippi River Commission. Specific request to initiate this particular project area study was made October 9, 1956 by the District Engineer, Memphis District, Corps of Engineers, Department of the Army. The basis for study was agreed on as set forth in the Project Study Statement, dated November 1, 1956.

AGENCY PARTICIPATION AND RESPONSIBILITIES

Material contained herein is based upon the data at hand and the combined judgment of available agricultural technicians most familiar with the project area and its agricultural conditions and problems. Under a U. S. Department of Agriculture Memorandum of Understanding, consummated February 2, 1956, the U. S. Forest Service, the Agricultural Research Service, and the Soil Conservation Service have each participated in the study. From time to time assistance of other persons, such as representatives of the Agricultural Extension Service, State College of Agriculture and Experiment Station, and other agencies, has been given.

The Agricultural Research Service has been responsible for developing field crop and livestock commodity price data, field crop and livestock enterprise production cost data, interest rates for capitalization, amortization and discounting, and has assisted the Soil Conservation Service in studies of field crop and pasture yields and in overall economic procedures.

All woodland yields, values and costs were developed by the Forest Service.

The Soil Conservation Service, through the office of the Arkansas State Conservationist, has in general been responsible for coordinating and conducting the study and preparing this report. It has classified the soils of the area in accordance with the major soil groupings. It has estimated land use and cropping patterns, extent and cost of land use conversions, and extent and cost of farm and group drainage systems.

METHOD OF COMPUTING AGRICULTURAL VALUES CREDITABLE TO PROJECT

Data presented in this report are intended to portray three different situations with respect to land use, cropping patterns, crop yields, etc. - (1) the current situation, (2) the future situation without the proposed project, and (3) future conditions with the proposed project. The basis for computing agricultural

benefits in this report is the difference between the second and third situation listed. The major reason for this type of calculation is that it provides a systematic means of excluding non-project influences which are expected whether a project is installed or not. Because of current land development operations and expected changes in commodity price and price-cost relationships, for example, future land use and cropping systems without the project may be quite different than present. This difference is not credited to the project.

LIMITS OF APPLICATION OF ESTIMATES

The estimates cover an appraisal of the agricultural values and costs that can be expected as a result of agricultural drainage in association with installation of the proposed project works. However, the data includes no estimates of flood damage reduction, its values or costs, though the land use and cropping estimates reflect the flood protection that would be afforded by the proposed project works. Average flood-free yield estimates have been used throughout the study so that they can be used as a basis for calculation of flood damage reduction by the Corps of Engineers, based upon its own hydrologic studies. The Department of Agriculture, having made no hydrologic studies of its own in the area, has developed estimates on the basis of hydrologic data provided by the Corps of Engineers, including the delineation of limits of project effectiveness and maximum overflow that established the conditions for project study. Further studies may result in revised hydrologic data that would require modification of the agricultural data contained herein.

The limits of project effectiveness established by the Corps of Engineers on the basis of engineering studies were accepted as the basis for compilation of agricultural data. All soils of such characteristics as to not require drainage have been eliminated from drainage evaluations. However, no attempt has been made by the Department of Agriculture to designate areas, within the limit of project effectiveness provided by the Corps, which, because of elevation might be drained without the project and hence not properly creditable as benefiting from the project. Further engineering studies by the Corps may reveal the desirability of eliminating some acreages of that type from the computations contained herein. The Department of Agriculture does not have responsibility for that phase of the study.

DESCRIPTION OF THE PROJECT

The L'Anguille River Basin Project consists of channel cleanout, enlargement and realignment for L'Anguille River main stem and two major tributaries, Brushy Creek and First Creek. This is as previously authorized and described, except the

extension of the St. Francis River Floodway to the vicinity of Marianna, by constructing a levee and a channel, has been considered to be in place. This channel improvement enters the L'Anguille River at about Mile 5, and the area tributary to the L'Anguille River below this point is considered part of the St. Francis River watershed for the purpose of this study.

The proposed project is designed to serve as a major outlet for farm and group drainage systems for a total area of about 595,200 acres, all in Arkansas. As established by the Corps of Engineers, an area of 491,350 acres (Zone A) lies above the limits of overflow. An area of 86,700 acres (Zone B) is affected by flooding that can be alleviated by project works to an extent that will improve agriculture. An area of 17,150 acres (Zone C) is subject to flooding of such frequency as to preclude further agricultural development; reaches 1 and 2 are and will continue to be subject to backwater flooding from the Mississippi River. A large proportion of the flooding, above the area of Mississippi River backwater flooding, will be eliminated by the project; frequency, depth and duration will be reduced over the rest of the flood plain. The project will not alleviate Mississippi River flooding.

This project is essentially agricultural in nature. Agricultural benefits that could accrue from the project would be almost entirely from improvement in farm and group drainage systems and associated technology. Without these associated facilities, only relatively minor agricultural benefits could accrue. The proposed channel improvement is an integral part of farm and group drainage systems.

The project area is typical of the mixed alluvial-loess terrace area of Eastern Arkansas. General farming predominates; cotton, rice, soybeans and livestock feed crop production are the major enterprises. Although small farm ownership (less than 280 acres per unit) predominates at present, it is estimated that in the future, 90 percent of the area exclusive of Crowley's Ridge will be in large (more than 280 acres) operating units. Because of flat topography, predominance of poorly drained soils, considerable area subject to flooding, and the inadequacy of existing major drainage outlets, the area as a whole is only moderately developed.

SOILS

Bottomland soils (soil mapping units 1, 2SU, 4, 6, 7 and 8) are of relatively minor importance in the project area, comprising only about 8 percent of the total acreage. Soils of the loess terrace (soil mapping units 9, 9S and 10) constitute about 79 percent of the total area, and occur, in the most part, in the A zone. The remainder of the project area, about 13 percent, is composed of soils of Crowley's Ridge. It is readily evident that

the soil complexity of the area in age and origin causes considerable variation throughout the basin in adaptability and response to cropping systems and management.

Approximately 1 percent of the project area is composed of very slowly and slowly permeable, poorly to moderately well drained clay soils (soil mapping units 1 and 2SU). These soils are the most poorly developed of the bottomlands for agricultural production, although in the flood-free state they are inherently productive and constitute high production increments from drainage improvements.

Poorly drained silt loams of the bottomlands (soil mapping units 6 and 8) constitute about 6 percent of the project area. These soils are presently poorly developed for agricultural production but have a high production potential when drained. Because of the flat to depressed topography, during periods of excessive rainfall - usually several times each cropping season - surface flooding and water logging conditions prevail unless intensive farm and group drainage systems are provided. The soils are inherently productive and high yields of adapted crops can be regularly obtained when surface water accumulations are rapidly removed.

Sandy loams and silt loams predominate on about 65 percent of the L'Anguille River drainage area. They are underlain at varying depths with heavy clays of alluvial origin; the surface soils are of both alluvial and aeolian origin. These soils occupy low terrace (soil mapping units 4 and 7) and terrace (soil mapping units 9 and 10) positions in the landscape; those in the latter group occur on the loess terrace and are particularly adapted to rice culture. These sandy and silt loam soils are moderately well drained and consequently are fairly highly developed agriculturally and have moderately high present production levels, with the exception of soil mapping unit 10, which is poorly drained; consequently it is poorly developed, with a high percentage of its area still in woodland. These soils will respond to drainage improvements, and have high production potentials when properly drained and managed.

Approximately 15 percent of the project drainage area is comprised of sloping silt loam soils of the loess terrace (soil mapping unit 9S). These are well drained soils normally requiring no drainage improvements. Except for minor acreages of escarpments along streams where overflow is a hazard they are not affected by the project. Yields are somewhat lower on these soils due to past misuse brought about in part by early settlement, with subsequent erosion and long-time single cropping. These soils can be made to produce fairly high yields through technology and management.

Soils of Crowley's Ridge (soil mapping unit 15S), making

up the remaining 13 percent of the Basin area, are above the zone of overflow and are in no way affected by the project. They do have a bearing on the project, however, due to the rapid rate of runoff and the associated sediment production. The runoff and sediment increase the costs of farm and group drainage installation and maintenance by considerable amounts in those reaches of the project study area having portions of Crowley's Ridge in their headwaters.

LAND USE

About 62 percent of the project area is open land, 37 percent is wooded, .5 percent urban and .5 percent watered. There is a much higher percentage of woodland on soil mapping units 1, 6 and 10 than on the better drained soils in the basin.

There is a present trend toward conversion of some woodland to crop and pasture use on all soil units. However, present trends are influenced by current prices of agricultural commodities and by the usual optimism following a period of several relatively dry years when drainage needs have been minor. Without drainage improvements, no major land use changes are anticipated; with drainage, however, large scale conversions can be expected. Approximately 37 percent of the project study area is woodland. Woodland use varies considerably according to ownership, location, accessibility, soil, general drainage and overflow conditions. Timber stands range from heavily cut over with no saw-timber present to volumes well in excess of 5,000 board feet per acre. Species composition is generally good, running heavily to red oak, white oak and sweet gum.

Fire and grazing damage was found to be generally light. First Creek showed the heaviest damage with a 31 percent burn in the last five years and 40 percent of the woodland acreage showing grazing damage to seedling and sapling trees. In spite of this condition, it showed better than average forest yield values for the reason that it was not as heavily cut over as some of the other reaches.

There are 8,052 acres of privately owned woodland definitely reserved for wildlife use and forest production. Although the uses are quite compatible, wildlife interest is quite predominant. As an example, Wild Acres, Inc., owned by W. H. Claypool of Wiener, Arkansas and given nationwide TV coverage on "Wide Wide World" in December, 1956 lies in Reach 5 of this project.

The Pine Tree Land Use Area of 11,853 acres, currently administered as part of the Ozark National Forest, is within First Creek and Reach 3 of L'Anguille River. This federally owned land is reportedly available for disposal. It most likely will be sold to a state agency such as the University of Arkansas or the State

Game Commission. It contains only 2,429 acres of open land which is mostly in pasture. The woodland area is currently managed for timber production but future status is unknown. For the purpose of this study, this area of public ownership has been treated as private land.

Some woodland clearing has taken place in many parts of this project in the last three years. Brushy Creek and Reach 3 showed the largest amount of conversion according to the forest sampling patterns with some activity in Reaches 2, 4 and 5. Most of the areas along and adjacent to the L'Anguille River, Brushy Creek, and First Creek were flooded this spring. Many of these areas were flooded for the first time in many years according to local residents. Considerable flooding occurred in areas designated as A zones.

CROPPING PATTERNS

Cropping patterns on open land vary chiefly with the soil mapping unit and with drainage improvement of the wetland soils. Much of the cropland in Zone B is along the upper limits of overflow where frequency, depth and duration are not great enough to seriously affect cropping.

Cotton, rice, soybeans, corn, small grain, grain sorghum and pasture represent the major open land crops upon which this project analysis is based. Without drainage improvement, only small changes in major cropping are anticipated, other than an adjustment in "control crop" acreages to account for removal of acreage controls. However, with drainage improvement, relatively large conversions of woodlands are expected to occur, and more intensive cropping is anticipated with an increased acreage of cotton on most soils, and other crops on soils to which they are particularly adapted, as in the case of rice on soil mapping unit 10. Since the data for Zone B include some undrained as well as drained acreages, the cropping shown on Table II B, III B and IV B represents the weighted estimates for drained and undrained conditions.

YIELDS

Field crop and pasture yields are estimates of yields that are currently being attained or that can be expected to be attained by average producers, using a reasonable level of management, under future conditions, with and without drainage. All yields, in all project zones, are for average flood-free years. Within Zone B, under present, future without project and future with project conditions, there are varying percentages of total acreage that is or would be drained. These percentages were used in computing weighted yields for Table II B, III B, and IV B for each crop.

Computations for Zone A are only for net acreages to be drained, and since none of the acreage in Zone C will be drained, weighting was unnecessary in those two zones.

Woodland yields are based on sampling studies conducted in the area by U. S. Forest Service in the months of May, June, July, 1957. Yields are based on average growth rates applicable to the species, stand sizes and ages found. These yields represent the units of wood products and value that will be attained on the average for the next fifty years under the level of management that can be expected to prevail based on present findings in the area. Board and cubic foot yields are computed in the working papers but for simplicity are shown in Table III as a present worth value per acre.

PRICES

Woodland production values, as used in Table III, are based on 1955 prices for woodland products F.O.B. mill or siding. 1955 prices are used since they appear to be realistic price projections for future conditions. The production values shown for the future without project conditions have been discounted to present worth on all increments in production and value due to application of high level management and for any time lag in the availability of products for harvest.

Projected field crop and livestock prices used in this report were developed jointly by the Agricultural Research Service and the Agricultural Marketing Service. Projected prices have been used, based on most likely long range expectations, and estimates of cropping patterns have been influenced by the assumption that such prices will prevail. Projected prices were developed from studies of the prospective conditions of product supplies and requirements. In order to remove the effects of price support programs and in order to reflect the economy of production in competing areas, the projections assume the eventual attainment of a relatively free market for agricultural products.

In evaluating the long-run aspects of deferred land development and improvement projects, the use of projected prices makes it unnecessary to restrict the acreage of "control" crops in crop income computations.

Crop acreages shown for future conditions are not compatible with a projection of current prices into the future, however. Neither do they seem to portray attainable goals for restricted crops during the surplus disposal period in the immediate years ahead. Therefore, if current prices were to be used in projection of future project conditions, or for projects where early construction is contemplated, there would appear to be little or no justification for increasing the acreage of surplus or "control" crops (cotton and rice) over current allotment acreages.

CROP PRODUCTION COSTS

Production costs for forest products are based on costs prevailing in and adjacent to the project locality during 1955. These costs are estimated to be at a reasonable level for projection to future conditions. Costs cover conversion of standing timber to raw wood products at mill or rail siding, including a return to management, and a cultural and crop management cost consisting of an amortized annual charge for timber stand improvement work; an allowance for management and supervision by owners, their representatives, and foresters and forest protection. Conversion costs have been discounted to present worth in the same manner as production values.

Production costs for all field crop and livestock enterprises were developed from a study of large and small Mississippi River bottomland farms. Because production costs by enterprises are not the same for large as for small farms, these costs were weighted in accordance with the proportionate acreage of land in large and small farms expected to exist in the project area under future conditions. Production costs, as used for project evaluation purposes, include all operational costs required to attain yield levels indicated in project cost tables (such as allowances for all labor, power, machinery, and materials required to produce and market the product), all farm overhead costs necessary in farm operation (except a charge for land), and an allowance for management expense which includes an estimated amount required for the operator's management and for any employed management personnel or services.

Land charges were omitted from the cost analysis because net returns to land were being determined for conditions with and without the project features. Overhead costs include such items as a charge for buildings, maintenance and replacement of farm machinery, interest on investment, insurance, and personal property taxes. Specified production costs are all costs incurred in production and marketing of the crop or livestock. These specified costs do not include overhead and management charges. Overhead and management costs were allocated to each enterprise in proportion to the specified costs of production expended on the enterprise. Some production costs were treated as variables with yield levels attained (most harvest costs, fertilizer, poisoning, etc.) while other costs were assumed to be fixed regardless of yield (soil preparation, cultivation, and a portion of machine-picking cost). Preharvest, harvest, overhead and management costs were computed separately to derive total crop production costs.

Production costs used for projections are approximately 96 percent of the 1955 level of costs incurred by farmers.

Crop yield - production cost relationships are not the same for summary tables (all soils) as for the individual soils tables from which the summary tables are constructed. A small portion of this difference is statistical in nature (statistical error due to rounding to commonly used units) and can be ignored. The major difference, however, is due to the computing of both yields and production costs in the summary tables where total production and total cost of each crop for all soils is divided by the total acreage of that crop. If all costs bore a direct (straight-line) relationship to yield, these differences, except for statistical error, would not occur. Because this situation does not exist, an entirely accurate production cost for a given yield in the summary tables cannot be read from the standard cost tables that were developed. To get entirely accurate detailed costs (preharvest, harvest, overhead and management) in the summary tables that would be comparable to the costs used in the individual soil unit tables, it would be necessary to weight each of the components of total cost with the same acreage used in the individual soil unit tables.

The difference between the computed costs used in the summary tables for a given yield and the unweighted costs (standard cost tables) is not expected to exceed 10 percent on any given component of total cost - spot checks of actual data have not exceeded 5 percent. Therefore, unless greater accuracy is desired than that provided by summary tables, it will not be necessary to weight detailed cost data for flood damage analysis purposes if standard detailed cost tables are used in determining such costs.

In those cases where supplemental irrigation is involved (on crops other than rice which is an irrigated crop), irrigation costs are computed separately and added to standard production costs. These irrigation costs consist of preharvest and overhead charges. They have been added to standard non-irrigated production costs in proportion to acres irrigated in all tables where supplemental irrigation is involved.

NET CROP PRODUCTION RETURNS

The analysis of crop production by soil units, upon which the summary tables are based, indicate the gross value of production to be greater than production costs. Inasmuch as this analysis assumes flood-free years, consideration has not been given to the effect of flood damage on average annual net income. Consideration of the relation of this production and income analysis to flood damage analysis can be given only after flood losses have been estimated.

LAND USE CONVERSIONS AND COSTS

Table VI shows the land use conversions that are anticipated from the influence of the L'Anguille River Basin Project and the development of the associated farm and group drainage systems. Table VI also contains the costs of making all conversions (present level). Rather large conversions of woodland to general cultivated crops (dry land), irrigated crop (rice) and pasture use can be expected with provision of a major drainage outlet and associated farm and group drainage systems. It is estimated that these conversions will all be profitable enough to be desirable from the standpoint of the owner and operator. If the operator secures the inducement of a reasonable income over and above his loss of present woodland value and his land use conversion and drainage costs, he will probably go ahead with land conversions rather than wait for a long period of years for deferred woodland income.

Items of conversion cost include all expense of putting woodland from its present state into condition to produce a crop or livestock enterprise, with only normal production costs remaining to be incurred. This statement excepts considerable acreages of irrigation which will also be expected with drainage installation. Costs of installation and maintenance of irrigation systems are included in costs of production. Also included in costs of production are costs of establishing and maintaining pasture on converted woodlands or present open land.

All capital costs of woodland conversions have been amortized at 5 percent for a period of 50 years.

FARM DRAINAGE SYSTEMS AND COSTS

Table VII contains estimates of amounts and costs of farm drainage systems that can be expected after a satisfactory major outlet and connecting group drainage system is developed. These estimates anticipate that approximately 65 percent of the wet lands, exclusive of those in the C zone (zone of no project benefit), will be drained and used for crop production. Approximately 10 percent of the open land is used for farmsteads, farm roads, waste, etc. and hence is not available for crop use. An additional area, estimated at 25 percent of the total wet land area exclusive of zone C, will not be improved because of a lack of farmer participation.

Costs, computed at current levels, include the installation (construction, engineering and contingency) costs required for farm drainage systems for satisfactorily rapid removal of surface water accumulations that are likely to occur for the various conditions of rainfall and runoff involved. Requirements vary by soil mapping units and by land use. Costs in-

clude all ditching and appurtenant structural needs for systems to serve an average of one square mile. Estimates are based on standard design data for the conditions involved.

Farm drainage system capital costs have been amortized for a useful life period of 10 years at 5 percent. Field experience in farm drainage work indicates that a 10 year life period is realistic in this area in view of changes in ownership, changes in cropping patterns, etc. Maintenance costs, varying with the soil mapping unit and the land use, have been added to the amortized annual equivalent of installation cost to derive the annual cost of farm drainage systems.

All farm drainage costs have been discounted on Table IX at 5 percent to account for an estimated 10 year lag to full installation, maintenance and benefit accrual. Although land near existing adequate major outlets can be drained, considerable areas will have to wait on intensive farm drainage until adequate group drainage facilities are installed.

GROUP DRAINAGE SYSTEMS AND COSTS

In order that all wet lands of the L'Anguille River Basin will have access to a satisfactory major drainage outlet, it is estimated that approximately 760 miles of group drainage ditches and appurtenant structures are needed to serve as intermediate drainage. These will connect the farm drainage systems that are anticipated to be installed, with the major outlet.

Table VIII itemizes the cost required to install and maintain the group drainage ditches and appurtenant structures. Installation costs have been amortized for a useful life period of 20 years at $3\frac{1}{2}$ percent. Field experience in group drainage work indicates that a 20 year useful life period is realistic in view of changing land use patterns, sedimentation problems, etc., particularly in areas such as the L'Anguille River Basin where considerable drainage work is required and large woodland conversions are anticipated. Maintenance costs have been added to this amount to derive the total annual cost of group drainage systems.

All group drainage costs have been discounted on Table IX at $3\frac{1}{2}$ percent to account for an estimated 15 year lag to full installation, maintenance and benefit accrual.

BENEFITS AND ASSOCIATED COSTS

Table IX summarizes annual net returns from Tables III and IV for Zones A, B and C, annual costs of making woodland conversions (from Table VI), and establishing and maintaining farm and group drainage systems (Tables VII and VIII).

Returns and gross benefit, and all associated cost items, have been discounted in Column 3, Table IX, to account for an estimated lag and buildup period to full installation and maintenance requirements, and benefit accrual.

SUMMARY

The L'Anguille River Basin project area is a moderately well developed agricultural area. Development has been slowed somewhat by acreage allotment controls, but principally because of the high percentage of wet soils and a lack of adequate major drainage outlets. With the authorized project installed on the L'Anguille River and two of its major tributaries, Brushy Creek and First Creek, adequate major drainage outlets will be provided for the L'Anguille River Basin.

Upon installation of these major drainage outlets, extensive agricultural development can be expected, but economic soundness of such development and satisfactory high level production can be assured only with large amounts of associated group and farm drainage. The major outlets, group ditches and farm systems need to be integral parts of a single major system for removal of surface water accumulations; this is the principal function of the proposed facility.

Yields for average flood-free years have been used throughout this report. The Corps of Engineers, therefore, may need to modify the Future Without Project values to account for flood damage. They may also need to modify Future With Project values to account for less than complete flood protection under project conditions.

* * * * *

L'ANGUILLE RIVER BASIN SUMMARY BY REACHES

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Sub-Project or Reach	Acres	Future Without Project (Value of Production in Dollars)		Future With Project (Value of Production in Dollars)		Difference in		Net Value
		Gross	Cost	Net	Gross	Cost	Net	
L'Anguille River								
Reach 1	4,010	195,178	151,305	43,873	306,297	248,592	57,705	13,832
Reach 2	35,827	1,879,990	1,525,333	354,657	3,527,117	2,908,557	618,560	263,903
Reach 3	62,478	2,482,138	1,957,316	524,822	5,336,375	4,285,516	1,050,859	526,037
Reach 4	33,624	1,750,709	1,493,650	257,059	2,998,279	2,473,652	524,627	267,568
Reach 5	72,729	3,153,803	2,613,442	540,361	5,510,903	4,370,280	1,140,623	600,262
Brushy Creek	43,355	1,927,752	1,668,533	259,219	3,476,591	2,815,268	661,323	402,104
First Creek	27,621	930,075	772,718	157,357	2,332,329	1,914,723	417,606	260,249
BASIN TOTAL	279,644	12,319,645	10,182,297	2,137,348	23,487,891	19,016,588	4,471,303	2,333,955

1/ Total Basin area reduced by 2,746 acres urban, 1,792 acres water, 8,052 acres dedicated to woodland, 89,077 acres woodland not anticipated to be cleared, and 213,889 acres already drained, not requiring drainage or not anticipated to be drained.

Basin: L'Anguille River
 Reach: 1, L'Anguille River
 State: Arkansas

TABLE I
 PRESENT LAND USE

Zone	Soil map-- ping unit	Open (Acres)	Wooded (Acres)	Urban (Acres)	Water (Acres)	Total (Acres)
Zone A	9	1,646	87	-	-	1,733
	9S	2,251	130	-	-	2,381
	15S	104	173	-	-	277
Subtotal, all soils		4,001	390	-	-	4,391
Urban		-	-	771	-	771
Watered		-	-	-	-	-
Total - Zone A		4,001	390	771	-	5,162
Zone B	1	293	691	-	-	984
	2SU	258	26	-	-	284
	6	59	17	-	-	76
	9	52	-	-	-	52
	9S	390	173	-	-	563
Subtotal - all soils		1,052	907	-	-	1,959
Urban		-	-	-	-	-
Watered		-	-	-	15	15
Total - Zone B		1,052	907	-	15	1,974
Zone C	1	449	3214	-	-	3,663
	2SU	552	190	-	-	742
	6	59	233	-	-	292
Subtotal - all soils		1,060	3,637	-	-	4,697
Urban		-	-	-	-	-
Watered		-	-	-	49	49
Total - Zone C		1,060	3,637	-	49	4,746
GRAND TOTAL - Reach 1		6,113	4,934	771	64	11,882

Basin: L'Anguille River
 Reach: 1, L'Anguille River
 State: Arkansas

TABLE II A
 ZONE FOR DRAINAGE CALCULATIONS ONLY, COMPUTATION
 OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop	3/ Acres	Production		
Unit	distribution		Unit	Per acre	Total
9 1/	Open land	1,646			
	Crops	1,481			
	Cotton	711	Lbs. Lint	310	220,410
	Cottonseed	(711)	Ton	.2790	198.37
	Corn	237	Bu.	25	5,925
	Soybeans	118	Bu.	16	1,888
	Oats (Grain)	148	Bu.	25	3,700
	Oats (Sup. Past.)	(148)	Lbs. Beef	70	10,360
	Perm. Pasture	193	Lbs. Beef	180	34,740
	Idle	74			
	Other 2/	165			
	Woodland	87	Acres		
	TOTAL	1,733 4/			

- 1/ One soil only; no summary required
 2/ Farmsteads, farm roads, waste and non-agricultural
 3/ Parenthetical amounts are duplicated acreages
 4/ Total area zone A reduced by 771 acres urban, and 2,658 acres
 not requiring drainage.

Basin: L'Anguille River
 Reach: 1, L'Anguille River
 State: Arkansas

TABLE III A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION
 COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acreage	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return
9 1/	Open land	1,119				Dollars	Dollars	Dollars	Dollars	Dollars
	Crops	1,007								
	Cotton	504	Lbs. Lint	350	176,400	.25	44,100	94.22	47,487	6,615
	Cottonseed	(504)	Ton	3150	158,76	63.00	10,002	-	-	-
	Corn	50	Bu.	30	1,500	1.45	2,175	25.78	1,289	886
	Soybeans	201	Bu.	22	4,422	2.30	10,171	27.63	5,554	4,617
	Oats (Grain)	101	Bu.	30	3,030	.90	2,727	19.28	1,947	780
	Oats (Sup. Past.)	(101)	Lbs. Beef	90	9,090	.2005	1,823	7.52	760	1,063
	Perm. Pasture	101	Lbs. Beef	235	23,735	.2005	4,759	33.19	3,352	1,407
	Idle	50								
	Other	112								
	Woodland	56	Aores			9.15	512	4.57	256	256
	TOTAL	1,175 4/7					76,269		60,645	15,624

1/ One soil only; no summary required.
 2/ Farmsteads, farm roads, waste and non-agricultural
 3/ Parenthetical amounts are duplicated acreages.
 4/ Total area zone A reduced by 771 acres urban, 31 acres woodland not anticipated to be cleared, and 3,185 acres already drained, not anticipated to be drained, or not requiring drainage.

Basin: L'Anguille River
 Reach: 1, L'Anguille River
 State: Arkansas

TABLE IV A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION
 COSTS AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT

(Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return
9 1/	Open land	1,175								
	Crops	1,058								
	Cotton	709	Lbs. lint	525 4/	373,225	.25	93,056	143.84	101,983	12,178
	Cottonseed	(709)	Ton	.4725	335.00	63.00	21,105	-	-	-
	Corn	53	Bu.	40	2,120	1.45	3,074	33.45	1,773	1,301
	Soybeans	53	Bu.	22	1,166	.2,30	2,682	27.63	1,464	1,218
	Oats (Grain)	106	Bu.	40	4,240	.90	3,816	24.28	2,574	1,242
	Oats (Sup. Past.)	(106)	Lbs. Beef	125	13,250	.2005	2,657	11.27	1,195	1,462
	Perm. Pasture	85	Lbs. Beef	340	28,900	.2005	5,794	46.05	3,914	1,880
	Idle	52								
	Other	117								
	Woodland	-	Acres							
	TOTAL	1,175 5/					132,184		112,903	19,281

1/ One soil only; no summary required.
 2/ Farmsteads, farm roads, waste and non-agricultural
 3/ Parenthetical amounts are duplicated acreages.
 4/ 30 percent cotton irrigated
 5/ Total area zone A reduced by 771 acres urban, 31 acres woodland not to be cleared, and 3,185 acres already drained, not requiring drainage or not anticipated to be drained.

Basin: L'Anguille River
 Reach: 1, L'Anguille River
 State: Arkansas

SUMMARY - TABLE II B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1):	(2)	(3)	(4)	(5)	(6)
Soil: Land use and crop	:	<u>2/</u>	:	Production	:
Unit: distribution	:	Acres	:	Unit	Per Acre: Total
:	:	:	:	:	:
All: Open land	:	1,052	:	:	:
: Crops	:	947	:	:	:
: Cotton	:	473	:Lbs.Lint:	235	: 111,275
: Cottonseed	:	(473)	: Ton	:.2117	: 100.14
: Corn	:	54	: Bu.	: 16	: 840
: Soybeans	:	179	: Bu.	: 14	: 2,546
: Oats (Grain)	:	20	: Bu.	: 25	: 500
: Oats (Sup.Past.)	:	(20)	:Lbs.Beef:	90	: 1,800
: Perm. Pasture	:	163	:Lbs.Beef:	195	: 31,785
: Idle	:	58	:	:	:
: Other <u>1/</u>	:	105	:	:	:
:Woodland	:	907	: Acres	:	:
: TOTAL	:	<u>1,959</u>	:	:	:
:	:	<u>4/</u>	:	:	:

- 1/ Farmsteads, farm roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages
3/ Calculated from Columns 3 and 6; rounded to nearest unit
4/ Total area zone B reduced by 15 acres water.

Basin: L'Anguille River
Reach: 1, L'Anguille River
State: Arkansas

SUMMARY - TABLE III B
ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
(Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil : Land use and crop	2/	Acres	Unit	Production	Total	Value of production : Per unit	Total	Cost of production : Per Acre	Total	Net Return
Unit : distribution				Per Acre		Dollars	Dollars	Dollars	Dollars	Dollars
All : Open land		1,052								
: Crops		947		3/				4/		
: Cotton		426	Lbs.	321	136,590	.25	34,148	89.15	37,977	3,916
: Cottonseed		(426)	Ton	2886	122,93	63.00	7,745			
: Corn		102	Bu.	19	1,910	1.45	2,769	19.90	2,030	739
: Soybeans		284	Bu.	18	5,139	2.30	11,820	24.51	6,961	4,859
: Perm. Pasture		40	Lbs. Beef	340	13,600	2005	2,727	46.05	1,842	885
: Idle		95								
: Other	1/	105								
: Woodland		367	Acres			9.15	3,358	4.57	1,677	1,681
: TOTAL		1,419 6/					62,567		50,487	12,080

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages.
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area zone B reduced by 15 acres water and 540 acres not anticipated to be cleared.

Basin: L'Anguille River
 Reach: 1, L'Anguille River
 State: Arkansas

SUMMARY - TABLE IV B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil : Land use and crop	Acres	Unit	Production	Per Acre	Total	Value of production	Cost of production	Net		
Unit : distribution	Acres	Unit	Production	Per Acre	Total	Value of production	Cost of production	Net		
All : Open land	1,419									
: Crops	1,277									
: Cotton	706	Lbs. Lint	436	3/	307,955	25	17,461	4/	81,904	12,546
: Cottonseed	(706)	Ton	3926		277.16	63.00	17,461			
: Corn	152	Bu.	29		4,376	1.45	6,345	25.07	5,811	2,534
: Soybeans	295	Bu.	21		6,195	2.30	14,249	26.98	7,959	6,290
: Perm. Pasture	40	Lbs. Beef	340		13,600	2005	2,727	46.05	1,842	885
: Idle	84									
: Other	142									
: Woodland	-	Acres								
: TOTAL	1,419						117,771		95,516	22,255

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area zone B reduced by 15 acres water and 540 acres not anticipated to be cleared.

Basin: L'Anguille River
 Reach: 1, L'Anguille River
 State: Arkansas

TABLE V
 FLOOD SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil	Acres	Future Without Project (Production in Dollars)		Future With Project (Production in Dollars)		Difference in Net Production		
Unit		Gross	Cost	Net	Gross	Cost	Net	
9	1,175	76,269	60,645	15,624	132,184	112,903	19,281	3,657
Subtotal	1,175	76,269	60,645	15,624	132,184	112,903	19,281	3,657
		ZONES A - (not subject to flooding)						
		ZONES B & C - (subject to flooding)						
1	2,393	86,115	65,183	20,932	141,319	110,212	31,107	10,175
9S	442	32,794	25,477	7,317	32,794	25,477	7,317	-
Subtotal	2,835	118,909	90,660	28,249	174,113	135,689	38,424	10,175
TOTAL	4,010	195,178	151,305	43,873	306,297	248,592	57,705	13,832

1/ Total area zone A reduced by 771 acres urban, 31 acres woodland not anticipated to be cleared, and 3,185 acres already drained, not requiring drainage, or not anticipated to be drained.
 2/ Total area zones B & C reduced by 64 acres water, 75 acres dedicated woodland, and 3,746 acres woodland not anticipated to be cleared.

Basin: L'Anguille River
 Reach: 1, L'Anguille River
 State: Arkansas

TABLE VI
 LAND CONVERSIONS WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion 1/	Total Amount	Cost of Clearing	Cost of Smoothing	Total Cost
Per Acre	<u>Acres</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>
W to GC	xx	60	15	xx
W to IC	xx	-	-	xx
W to P	xx	-	xx	xx
P to GC	xx	xx	-	xx
P to IC	xx	xx	-	xx
GC to IC	xx	xx	xx	xx
GC to P	xx	xx	xx	xx
Project				
W to GC	423	25,380	6,345	31,725
W to IC	-	-	-	-
W to P	-	-	xx	-
P to GC	16	xx	-	-
P to IC	-	xx	-	-
GC to IC	-	xx	xx	-
GC to P	-	xx	xx	-
Total project	xx	25,380	6,345	31,725
Annual amortized value 2/	xx	xx	xx	1,738
Total annual cost of conversions	xx	xx	xx	1,738

1/ W-woodland; GC-general dry-farmed crops; IC- irrigated crops; (rice); P-pasture.

2/ Amortized over 50 years at 5 percent.

Basin: L'Anguille River
 Reach: 1, L'Anguille River
 State: Arkansas

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Zone	Soil mapping unit and land use	Area	Total Cost Installation/	Annual Equivalent Cost 2/	Annual Maintenance Cost	Total Annual Cost
A	9 - General Crops	Acres	Dollars	Dollars	Dollars	Dollars
	9 - Pasture	973	12,940	1,676	1,493	3,169
		85	691	89	16	105
	Subtotal	1,058	13,631	1,765	1,509	3,274
B	1 - General Crops	577	9,984	1,293	1,152	2,445
	Subtotal	577	9,984	1,293	1,152	2,445
	TOTAL	1,635	23,615	3,058	2,661	5,719

- 1/ Includes engineering and contingency
 2/ Amortized over 10 years at 5 percent
 3/ Does not include 10 percent "other" land.

Basin: L'Anguille River
 Reach: 1, L'Anguille River
 State: Arkansas

TABLE IX
 SUMMARY OF ANNUAL NET PRODUCTION RETURNS
 AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted
	Dollars	Amount
		Dollars
1. Net return with project	57,705	xx
2. Net return without project	43,873	xx
3. Gross benefit to project	13,832	9,689 <u>1/</u>
4. Farm drainage cost	xx	xx <u>1/</u>
a. Installation cost	3,058	xx
b. Maintenance cost	2,661	xx
c. Total	5,719	4,006
5. Group drainage cost <u>2/</u>	xx	xx
a. Installation cost	-	xx
b. Maintenance cost	-	xx
c. Total	-	-
6. Conversion cost	xx	xx <u>1/</u>
a. Installation cost	1,738	xx
b. Maintenance cost	-	xx
c. Total	1,738	1,217

- 1/ Discounted at 5 percent to account for estimated 15 year lag to full installation, maintenance, and benefit accrual.
2/ No group drainage required; no table VIII required.

Basin: L'Anguille River
 Reach: 2, L'Anguille River
 State: Arkansas

TABLE I
 PRESENT LAND USE

Zone	Soil map- ping unit	Open (Acres)	Wooded (Acres)	Watered (Acres)	Urban (Acres)	Total (Acres)
Zone A	4	-	35	-	-	35
	6	-	17	-	-	17
	9	28,905	9,155	-	-	38,060
	9S	15,937	1,299	-	-	17,236
	10	2,278	7,276	-	-	9,554
	15S	3,828	1,992	-	-	5,820
Subtotal - all soils		50,948	19,774	-	-	70,722
Urban		-	-	615	-	615
Water		-	-	-	-	-
Total - Zone A		50,948	19,774	615	-	71,337
Zone B	4	581	786	-	-	1,367
	6	-	616	-	-	616
	9S	3,547	1,497	-	-	5,044
Subtotal - all soils		4,128	2,899	-	-	7,027
Urban		-	-	-	-	-
Water		-	-	-	-	-
Total - Zone B		4,128	2,899	-	-	7,027
Zone C	1	23	189	-	-	212
	4	279	786	-	-	1,065
	6	377	6,917	-	-	7,294
	9S	287	294	-	-	581
Subtotal - all soils		966	8,186	-	-	9,152
Urban		-	-	-	-	-
Water		-	-	-	102	102
Total - Zone C		966	8,186	-	102	9,254
GRAND TOTAL - Reach 1		56,042	30,859	615	102	87,618

Basin: L'Anguille River
 Reach: 2, L'Anguille River
 State: Arkansas

SUMMARY - TABLE II A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil : Land use and crop	:	2/	:	Production	
Unit : distribution	:	Acres	:	Unit : Per Acre:	Total
All	:		:		
Open land	:	28,396	:		
Crops	:	25,556	:	3/	
Cotton	:	8,650	:	Lbs. Lint	309 : 2,672,855
Cottonseed	:	(8,650)	:	Ton	: 2781 : 2,405.57
Corn	:	2,677	:	Bu.	: 25 : 66,625
Rice	:	2,500	:	Cwt.	: 24 : 60,000
Soybeans	:	2,613	:	Bu.	: 16 : 41,067
Oats (Grain)	:	2,868	:	Bu.	: 25 : 70,370
Oats (Sup. Past.)	:	(1,434)	:	Lbs. Beef	: 69 : 98,335
Grain Sorghum	:	75	:	Bu.	: 15 : 1,125
Perm. Pasture	:	4,742	:	Lbs. Beef	: 180 : 853,560
Idle	:	1,431	:		
Other 1/	:	2,840	:		
Woodland	:	16,483	:	Acres	
TOTAL	:	44,879 4/	:		

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from columns 3 and 6; rounded to nearest unit
- 4/ Total area zone A reduced by 615 acres urban, and 25,843 acres already drained or not requiring drainage.

Basin: L'Anguille River
Reach: 2, L'Anguille River
State: Arkansas

SUMMARY - TABLE III A
ZONE FOR DRAINAGE CALCULATIONS ONLY
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION
COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
(Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	2/	Unit	Production	Total	Value of production	Cost of production	Net		
Unit	distribution	Acres		Per Acre		Per Unit	Total	Per Acre	Total	Return
All	Open land	20,192								
	Crops	18,173								
	Cotton	7,607	Lbs.Lint	3/ 348	2,648,510	.25	662,127	93.86	713,961	98,336
	Cottonseed	(7,607)	Ton	.3133	2,383.65	63.00	150,170	-	-	-
	Corn	892	Bu.	29	26,240	1.45	38,047	25.44	22,691	15,356
	Rice	2,639	Cwt.	25	65,975	3.75	247,406	87.64	231,282	16,124
	Soybeans	2,181	Bu.	21	46,414	2.30	106,752	27.03	58,948	47,804
	Oats (Grain)	1,454	Bu.	29	42,441	.90	38,197	18.91	27,492	10,705
	Oats (Sup.Past.)	(826)	Lbs.Beef	87	72,065	.2005	14,449	7.22	5,967	8,482
	Grain Sorghum	65	Bu.	19	1,235	1.53	1,890	18.42	1,197	693
	Perm. Pasture	2,313	Lbs.Beef	231	535,405	.2005	107,349	32.70	75,624	31,725
	Idle	1,022								
	Other	2,019								
	Woodland	7,471	Acres			10.75	80,313	6.66	49,757	30,556
	TOTAL	27,663 5/					1,446,700		1,186,919	259,781

1/ Farmsteads, farm roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages
3/ Calculated from Columns 3 and 6; rounded to nearest unit
4/ Calculated from Columns 3 and 10; rounded to nearest cent
5/ Total area zone A reduced by 615 acres urban, 9,012 acres not anticipated to be cleared, and 34,047 acres already drained, not requiring drainage or not anticipated to be drained

Basin: L'Anguille River
Reach: 2. L'Anguille River
State: Arkansas

SUMMARY - TABLE IV A
ZONE FOR DRAINAGE CALCULATIONS ONLY
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
(Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	2/	Unit	Production	Value of production	Cost of production	Net			
Unit	distribution	Acres	Per Acre	Total	Per Unit	Total	Per Acre	Total	Return	
All	Open land	27,663								
	Crops	24,897								
	Cotton	9,560	Lbs. Lint	613	5,858,250	25	1,464,562	167.09	1,597,380	199,345
	Cottonseed	(9,560)	Ton	5515	5,272,42	63.00	332,163	-	-	-
	Corn	1,198	Bu.	40	47,356	1.45	68,666	35.04	39,584	29,082
	Rice	4,302	Cwt.	35	150,570	3.75	564,637	111.17	478,253	86,384
	Soybeans	2,988	Bu.	22	64,608	2.30	148,598	27.39	81,831	66,767
	Oats (Grain)	1,992	Bu.	39	78,176	.90	70,358	23.88	47,572	22,786
	Oats (Sup. Past.)	(1,494)	Lbs. Beef	118	176,880	2005	35,465	10.56	15,780	19,685
	Grain Sorghum	188	Bu.	19	3,572	1.53	5,465	18.42	3,463	2,002
	Perm. Pasture	3,095	Lbs. Beef	372	1,151,225	2005	230,820	52.80	163,412	67,408
	Idle	1,574								
	Other	2,766								
	Woodland	-	Acres							
	TOTAL	27,663					2,920,734		2,427,275	493,459

1/ Farmsteads, farm roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages
3/ Calculated from Columns 3 and 6; rounded to nearest unit.
4/ Calculated from Columns 3 and 10; rounded to nearest cent.
5/ Total area zone A reduced by 615 acres urban, 9,012 acres not anticipated to be cleared, and 34,047 acres already drained, not requiring drainage or not anticipated to be drained.

Basin: L'Anguille River
 Reach: 2, L'Anguille River
 State: Arkansas

SUMMARY - TABLE II B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1):	(2)	(3)	(4)	(5)	(6)
Soil:	Land use and crop	2/		Production	
Unit:	distribution	Acres	Unit	Per Acre:	Total
All:	Open land	4,128			
	Crops	3,715		3/	
	Cotton	2,184	Lbs.Lint:	301	658,120
	Cottonseed	(2,184)	Ton	.2712	592.31
	Corn	201	Bu.	30	5,992
	Soybeans	392	Bu.	17	6,637
	Oats (Grain)	466	Bu.	26	11,910
	Oats (Sup.Past.)	(207)	Lbs.Beef:	90	18,630
	Grain Sorghum	115	Bu.	20	2,300
	Perm. Pasture	160	Lbs.Beef:	195	31,200
	Idle	197			
	Other 1/	413			
Woodland		2,816	Acres		
	TOTAL	6,944			
		4/			

- 1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages
 3/ Calculated from Columns 3 & 6; rounded to nearest unit
 4/ Total area zone B reduced by 83 acres dedicated to woodland.

Basin: L'Anguille River
Reach: 2, L'Anguille River
State: Arkansas

SUMMARY - III B
ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
(Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	2/	Unit	Production	Total	Value of production	Cost of production	Net		
Unit	distribution	Aores	Per Acre	Per Acre	Total	Per Unit	Total	Per Acre	Total	Return
All	Open land	4,342								
	Crops	3,908		3/				4/		
	Cotton	2,021	Lbs. Lint	428	864,715	.25	216,179	111.58	225,495	39,713
	Cottonseed	(2,021)	Ton	.3851	778.24	63.00	49,029	-	-	-
	Corn	162	Bu.	36	5,885	1.45	8,533	30.45	4,933	3,600
	Rice	29	Cwt.	30	870	3.75	3,262	99.96	2,899	363
	Soybeans	496	Bu.	22	10,928	2.30	25,135	27.76	13,771	11,364
	Oats (Grain)	604	Bu.	36	21,849	.90	19,664	22.26	13,445	6,219
	Oats (Sup. Past.)	(250)	Lbs. Beef	125	31,250	.2005	6,266	11.27	2,817	3,449
	Grain Sorghum	117	Bu.	25	2,925	1.53	4,475	22.13	2,589	1,886
	Perm. Pasture	299	Lbs. Beef	340	101,660	.2005	20,383	46.05	13,769	6,614
	Idle	180								
	Other	434								
	Woodland	1,887	Aores			10.75	20,285		12,568	7,717
	TOTAL	6,229 5/8					373,211		292,286	80,925

1/ Farmsteads, farm roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages
3/ Calculated from Columns 3 and 6; rounded to nearest unit
4/ Calculated from Columns 3 and 10; rounded to nearest cent
5/ Total area zone B reduced by 83 acres dedicated to woodland, and 715 acres woodland not anticipated to be cleared.

Basin: L'Anguille River
Reach: 2, L'Anguille River
State: Arkansas

SUMMARY - TABLE IV B
ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
(Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	2/ Acres	Unit	Production Per Acre	Total	Value of production Per Unit	Dollars Total	Cost of production Per Acre	Dollars Total	Net Return Dollars
All	Open land	6,229								
	Crops	5,606		3/ 461	1,349,630	25	337,407	4/ 120.53	353,160	60,771
	Cotton	2,930	Lbs.Lint			63.00	76,524	-	-	-
	Cottonseed	(2,930)	Ton	4146	1,214,67	1.45	13,864	33.71	8,023	5,841
	Corn	238	Bu.	40	9,562	3.75	8,662	106.67	7,467	1,195
	Rice	70	Cwt.	33	2,310	2.30	36,673	28.31	19,843	16,830
	Soybeans	701	Bu.	23	15,945	.90	26,106	23.10	17,814	8,292
	Oats (Grain)	771	Bu.	38	29,007	2005	9,955	11.66	4,500	5,455
	Oats (Sup.Past.)	(386)	Lbs.Beef	129	49,650	1.53	7,459	22.13	4,315	3,144
	Grain Sorghum	195	Bu.	25	4,875	2005	29,654	46.05	20,032	9,622
	Perm. Pasture	435	Lbs.Beef	340	147,900					
	Idle	266								
	Other	623								
	1/ Woodland	-	Acres							
	TOTAL	6,229 5/					546,304		435,154	111,150

1/ Farmsteads, farm roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages
3/ Calculated from Columns 3 and 6; rounded to nearest unit
4/ Calculated from Columns 3 and 10; rounded to nearest cent
5/ Total area zone B reduced by 85 acres dedicated to woodland and 715 acres woodland not anticipated to be cleared.

Basin: L'Anguille River
 Reach: 2, L'Anguille River
 State: Arkansas

SUMMARY - TABLE II C
 ZONE OF NO PROJECT BENEFIT
 COMPUTATION OF AGRICULTURAL PRODUCTION
EXISTING CONDITIONS

(1) :	(2)	:	(3)	:	(4)	:	(5)	:	(6)
Soil:	Land use and crop	:	2/	:		:	Production	:	
Unit:	distribution	:	Acres	:	Unit	:	Per Acre:	:	Total
:		:		:		:		:	
All:	Open land	:	966	:		:		:	
:	Crops	:	869	:		:	3/	:	
:	Cotton	:	156	:	Lbs.Lint:	:	246	:	38,320
:	Cottonseed	:	(156)	:	Ton	:	2210	:	34,48
:	Corn	:	174	:	Bu.	:	21	:	3,688
:	Soybeans	:	191	:	Bu.	:	15	:	2,788
:	Grain Sorghum	:	131	:	Bu.	:	17	:	2,241
:	Idle	:	217	:		:		:	
:	Other 1/	:	97	:		:		:	
:	Woodland	:	969	:	Acres	:		:	
:	TOTAL	:	1,935 4/	:		:		:	
:		:		:		:		:	

- 1/ Farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 & 6; rounded to nearest unit.
 4/ Total area zone C reduced by 102 acres water, 1,726 acres dedicated to woodland, and 5,491 acres woodland not anticipated to be cleared.

Basin: L'Anguille River
Reach: 20 L'Anguille River
State: Arkansas

SUMMARY - TABLE III C 6/
ZONE OF NO PROJECT BENEFIT
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,
PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
(Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return
All	Open land	1,935								
	Crops	1,742								
	Cotton	314	Lbs.	272	85,350	.25	21,337	4/79.00	24,806	1,370
	Cottonseed	(314)	Ton	.2446	76.81	63.00	4,839	-	-	-
	Corn	349	Bu.	24	8,398	1.45	12,177	22.36	7,803	4,374
	Soybeans	383	Bu.	16	6,135	2.30	14,110	22.70	8,693	5,417
	Grain Sorghum	262	Bu.	19	4,978	1.53	7,616	18.42	4,826	2,790
	Idle	434								
	Other	193								
	Woodland		Acres							
	TOTAL	1,935					60,079		46,128	13,951

- 1/ Farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area zone C reduced by 102 acres water, 1,726 acres dedicated to woodland and 5,491 acres woodland not anticipated to be cleared.
- 6/ Data same for both "future with" and "future without" conditions. No table IV C required.

Basin: L'Anguille River
 Reach: 2, L'Anguille River
 State: Arkansas

TABLE V
 REACH SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil Unit	Acres	Gross	Cost	Net	Gross	Cost	Net	Difference in Net Production
		Future without Project (Production in Dollars)			Future With Project (Production in Dollars)			
9	22,443	1,315,943	1,081,078	234,864	2,499,863	2,085,067	414,796	179,932
10	5,220	130,758	105,841	24,917	420,871	342,208	78,663	53,746
Subtotal:	27,663	1,446,700	1,186,919	259,781	2,920,734	2,427,275	493,459	233,678
4	1,550	54,097	39,868	14,229	155,436	123,672	31,764	17,535
6	1,604	45,636	35,847	9,789	45,636	35,847	9,789	-
9S	5,010	333,557	262,699	70,858	405,311	321,763	83,548	12,690
Subtotal:	8,164	433,290	338,414	94,876	606,383	481,282	125,101	30,225
TOTAL:	35,827	1,879,990	1,525,333	354,657	3,527,117	2,908,557	618,560	263,903

1/ Total area zone A reduced by 615 acres urban, 9,012 acres not anticipated to be cleared and 34,047 acres already drained, not requiring drainage or not anticipated to be drained.

2/ Total area zones B & C reduced by 102 acres water, 1,809 acres dedicated woodland, and 6,206 acres woodland not anticipated to be cleared.

Basin: L'Anguille River
 Reach: 2, L'Anguille River
 State: Arkansas

TABLE VI
 LAND CONVERSIONS WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion 1/	Total Amount	Cost of Clearing	Cost of Smoothing	Total Cost
	Acres	Dollars	Dollars	Dollars
Per Acre				
W to GC	xx	60	15	xx
W to IC	xx	60	15	xx
W to P	xx	60	xx	xx
P to GC	xx	xx	-	xx
P to IC	xx	xx	-	xx
GC to IC	xx	xx	xx	xx
GC to P	xx	xx	xx	xx
Project				
W to GC	6,736	404,160	101,040	505,200
W to IC	1,704	102,240	25,560	127,800
W to P	918	55,080	xx	55,080
P to GC	-	xx	-	-
P to IC	-	xx	-	-
GC to IC	-	xx	xx	-
GC to P	-	xx	xx	-
Total project	xx	561,480	126,600	688,080
Annual amortized value 2/	xx	xx	xx	37,693
Total annual cost of conversions	xx	xx	xx	37,693

1/ W-woodland; GC-general dry-farmed crops; IC- irrigated crops; (rice); P-pasture.

2/ Amortized over 50 years at 5 percent.

Basin: L'Anguille River
 Reach: 2, L'Anguille River
 State: Arkansas

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Zone	Soil mapping unit and land use	Acres	Total Cost Installation 1/ Instl. Cost 2/ Cost	Annual Equivalent Cost	Annual Maintenance Cost	Total Annual Cost
A	9 - General crops	15,150	201,479	26,092	23,248	49,340
	9 - Rice	2,424	20,923	2,710	805	3,515
	9 - Pasture	2,625	21,361	2,766	493	3,259
	10 - General crops	2,350	31,252	4,047	3,606	7,653
	10 - Rice	1,878	15,600	2,020	600	2,620
	10 - Pasture	470	3,904	506	150	656
	Subtotal	24,897 3/4	294,519	38,141	28,902	67,043
B	4 - General crops	787	10,466	1,355	1,208	2,563
	4 - Rice	44	379	49	15	64
	4 - Pasture	37	301	39	7	46
	Subtotal	868 3/4	11,146	1,443	1,230	2,673
	TOTAL	25,765 3/4	305,665	39,584	30,132	69,716

1/ Includes engineering and contingency
 2/ Amortized over 10 years at 5 percent
 3/ Does not include 10 percent "other" land.

Basin: L'Anguille River
 Reach: 2, L'Anguille River
 State: Arkansas

TABLE VIII
 ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
Excavation <u>1/</u>	Cubic Yard	1,804,270	0.18	324,769
Spreading spoil <u>1/</u>				
Clearing right-of-way <u>1/</u>				
Right-of-way easements	Acres	869	15.00	13,035
Crossings	Each	100	300.00	30,000
Swinging water gaps	Each	64	50.00	3,200
Pipe drop structures	Each	86	150.00	12,900
Flap gates	Each	20	100.00	2,000
Vegetative plantings	Acres	193	8.00	1,544
Total construction cost	XX	XX	XX	387,448
Engineering cost	XX	XX	XX	38,745
Contingencies and legal	XX	XX	XX	38,745
Total installation cost				464,938
Annual equivalent - installation cost (amortized for 20 years at $3\frac{1}{2}$ percent)				32,713
Annual maintenance cost				19,372
Annual loss of production - right-of-way <u>2/</u>				3,609
Total annual cost of required group facilities				55,694

1/ These items included in excavation costs under normal contract procedures.

2/ Annual loss of production - right-of-way. 348 acres @ \$10.37 per acre.

Basin: L'Anguille River
 Reach: 2, L'Anguille River
 State: Arkansas

TABLE IX
 SUMMARY OF ANNUAL NET PRODUCTION RETURNS
 AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted
	Dollars	Dollars
1. Net return with project	618,560	xx
2. Net return without project	354,657	xx
3. Gross benefit to project	263,903	145,928 <u>2/</u>
4. Farm drainage cost	xx	xx <u>2/</u>
a. Installation cost	39,584	xx
b. Maintenance cost	30,132	xx
c. Total	69,716	38,550
5. Group drainage cost	xx	xx <u>3/</u>
a. Installation cost	32,713	xx
b. Maintenance cost <u>1/</u>	22,981	xx
c. Total	55,694	41,766
6. Conversion cost	xx	xx <u>2/</u>
a. Installation cost	37,693	xx
b. Maintenance cost	-	xx
c. Total	37,693	20,843

- 1/ Includes loss of production, right-of-way
2/ Discounted at 5 percent to account for estimated 25 year lag to full installation, maintenance, and benefit accrual.
3/ Discounted at $3\frac{1}{2}$ percent to account for estimated 15 year lag to full installation, maintenance, and benefit accrual.

Basin: L'Anguille River
 Reach: 3, L'Anguille River
 State: Arkansas

TABLE I
 PRESENT LAND USE

Zone	Soil map- ping unit	Open (Acres)	Wooded (Acres)	Urban (Acres)	Watered (Acres)	Total (Acres)
Zone A	4	87	346	-	-	433
	6	-	35	-	-	35
	8	217	1,880	-	-	2,097
	9	32,377	9,181	-	-	41,558
	9S	24,226	14,292	-	-	38,518
	10	18,293	34,750	-	-	53,043
	15S	5,310	4,764	-	-	10,074
Subtotal - all soils		80,510	65,248	-	-	145,758
Urban		-	-	735	-	735
Watered		-	-	-	-	-
Total - Zone A		80,510	65,248	735	-	146,493
Zone B	4	542	911	-	-	1,453
	6	342	6,076	-	-	6,418
	8	-	311	-	-	311
	9S	2,880	1,648	-	-	4,528
Subtotal - all soils		3,764	8,946	-	-	12,710
Urban		-	-	-	-	-
Watered		-	-	-	-	-
Total - Zone B		3,764	8,946	-	-	12,710
Zone C	4	50	2,461	-	-	2,511
Subtotal - all soils		50	2,461	-	-	2,511
Urban		-	-	-	-	-
Watered		-	-	-	639	639
Total - Zone C		50	2,461	-	639	3,150
GRAND TOTAL - Reach 3		84,324	76,655	735	639	162,353

Basin: L'Anguille River
 Reach: 3, L'Anguille River
 State: Arkansas

SUMMARY - TABLE II A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1) :	(2) :	(3) :	(4) :	(5) :	(6)
Soil :	Land use and crop	2/		Production	
Unit :	distribution	Acres	Unit	Per Acre:	Total
All :	Open land	42,880			
	Crops	38,593		3/	
	Cotton	10,906	Lbs. Lint	305	3,323,400
	Cottonseed	(10,906)	Ton	2743	2,991.06
	Corn	2,047	Bu.	24	49,155
	Rice	5,096	Cwt.	24	122,304
	Soybeans	5,399	Bu.	15	81,140
	Oats (Grain)	6,677	Bu.	24	157,903
	Oats (Sup. Past.)	(4,983)	Lbs. Beef	65	324,180
	Grain Sorghum	505	Bu.	15	7,575
	Perm. Pasture	4,997	Lbs. Beef	180	899,460
	Idle	2,966			
	Other 1/	4,287			
Woodland		44,342	Acres		
TOTAL		87,222 4/			

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages.
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Total area zone A reduced by 735 acres urban, 1,850 acres dedicated to woodland, and 56,686 acres already drained or not requiring drainage.

Basin: L'Anguille River
Reach: 3, L'Anguille River
State: Arkansas

SUMMARY - TABLE III A
ZONE FOR DRAINAGE CALCULATIONS ONLY
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION
COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
(Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	2/	Unit	Production	Value of production	Cost of production	Net			
Unit	distribution	Acres	Per Acre	Total	Per Unit	Total	Per Acre	Total	Return	
All	Open land	33,062								
	Crops	29,757		3/						
	Cotton	9,462	Lbs. Lint	340	3,218,795					
	Cottonseed	(9,462)	Ton	3062	2,896,91	63.00	182,505	92.27	873,049	114,154
	Corn	1,487	Bu.	27	40,132	1.45	58,191	24.01	35,710	22,481
	Rice	4,255	Cwt.	25	106,375	3.75	398,905	87.64	372,908	25,997
	Soybeans	5,986	Bu.	19	113,724	2.30	261,565	25.12	150,355	111,210
	Oats (Grain)	3,306	Bu.	26	86,141	.90	77,527	17.47	57,754	19,773
	Oats (Sup. Past.)	(2,953)	Lbs. Beef	77	227,515	.2005	45,617	6.12	18,086	27,531
	Grain Sorghum	570	Bu.	19	10,806	1.53	16,533	18.39	10,484	6,049
	Perm. Pasture	2,964	Lbs. Beef	216	641,560	.2005	128,633	30.59	90,659	37,974
	Idle	1,727								
	Other	3,305								
	Woodland	18,971	Acres			7.96	151,009	4.04	76,643	74,366
	TOTAL	52,033					2,125,183		1,685,648	439,535

1/ Farmsteads, farm roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages.
3/ Calculated from Columns 3 and 6; rounded to nearest unit
4/ Calculated from Columns 3 and 10; rounded to nearest cent
5/ Total area zone A reduced by 735 acres urban, 1,850 acres dedicated to woodland, 25,371 acres woodland not anticipated to be cleared, and 66,504 acres already drained, not anticipated to be drained, or not needing drainage.

Basin: L'Anguille River
Reach: 3, L'Anguille River
State: Arkansas

SUMMARY - TABLE IV A
ZONE FOR DRAINAGE CALCULATIONS ONLY
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,
PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
(Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	<u>2/</u> Acre	Unit	Production	Total	Value of production Per Unit	Cost of production Total	Cost of production Per Acre	Return Total	Return Per Acre
Unit	distribution			Per Acre		Dollars	Dollars	Dollars	Dollars	Dollars
All	Open land	52,033								
	Crops	46,830								
	Cotton	12,406	Lbs. Lint	566	7,021,880	.25	1,755,470	156.56	1,942,321	211,290
	Cottonseed	(12,406)	Ton	5094	6,319.69	63.00	398,141	-	-	-
	Corn	2,342	Bu.	38	90,126	1.45	130,682	32.13	75,260	55,422
	Rice	8,607	Cwt.	35	301,245	3.75	1,129,668	111.17	956,841	172,827
	Soybeans	9,366	Bu.	21	197,058	2.30	453,233	27.01	252,982	200,251
	Oats (Grain)	5,885	Bu.	38	221,083	.90	198,975	23.00	135,346	63,629
	Bats (Sup. Past.)	(4,631)	Lbs. Beef	107	495,790	.2005	99,406	9.35	43,290	56,116
	Grain Sorghum	1,253	Bu.	19	24,011	1.53	36,737	18.52	23,207	13,530
	Perm. Pasture	4,631	Lbs. Beef	348	1,613,390	.2005	323,485	47.88	221,723	101,762
	Idle	2,340								
	Other	5,203								
	Woodland		Acre							
	TOTAL	52,033					4,525,797		3,650,970	874,827

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages.
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area zone A reduced by 735 acres urban, 1,850 acres dedicated to woodland, 25,371 acres woodland not anticipated to be cleared, and 66,504 acres already drained, not anticipated to be drained, or not needing drainage.

Basin: L'Anguille River
 Reach: 3, L'Anguille River
 State: Arkansas

SUMMARY - TABLE II B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1):	(2)	:	(3)	:	(4)	:	(5)	:	(6)
Soil:	Land use and crop	:	<u>2/</u>	:		:	Production	:	
Unit:	distribution	:	Acres	:	Unit	:	Per Acre:	:	Total
:	:	:	:	:	:	:	:	:	:
All:	Open land	:	3,764	:	:	:	:	:	:
:	Crops	:	3,388	:	:	:	<u>3/</u>	:	:
:	Cotton	:	1,413	:	Lbs.Lint:	:	310	:	438,725
:	Cottonseed	:	(1,413)	:	Ton	:	.2794	:	394.86
:	Corn	:	377	:	Bu.	:	24	:	8,864
:	Rice	:	62	:	Cwt.	:	30	:	1,860
:	Soybeans	:	448	:	Bu.	:	16	:	7,351
:	Oats (Grain)	:	337	:	Bu.	:	25	:	8,425
:	Oats (Sup.Past.)	:	(337)	:	Lbs.Beef:	:	90	:	30,330
:	Perm. Pasture	:	518	:	Lbs.Beef:	:	192	:	99,385
:	Idle	:	233	:	:	:	:	:	:
:	Other <u>1/</u>	:	376	:	:	:	:	:	:
:	Woodland	:	8,906	:	Acres	:	:	:	:
:	TOTAL	:	12,670	:	:	:	:	:	:
:	:	:	<u>4/</u>	:	:	:	:	:	:

- 1/ Farmsteads, farm roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages
3/ Calculated from Columns 3 and 6; rounded to nearest unit
4/ Total area zone B reduced by 40 acres dedicated to woodland.

Basin: L'Anguille River
Reach: 3, L'Anguille River
State: Arkansas

SUMMARY - TABLE III B
ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
(Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Unit	Land use and crop distribution	Acres	Unit	Production	Total	Value of production	Total	Cost of production	Total	Net Return
				Per Acre		Per Unit		Per Acre		
All	Open land	4,259								
	Crops	3,833		3/				4/		
	Cotton	1,662	Lbs.Lint	413	685,760	.25	171,440	108.64	180,561	29,761
	Cottonseed	(1,662)	Pon	.3713	617.18	63.00	38,882	-	-	-
	Corn	357	Bu.	31	11,123	1.45	16,129	26.89	9,601	6,528
	Rice	89	Cwt.	30	2,670	3.75	10,012	99.96	8,896	1,116
	Soybeans	524	Bu.	20	10,714	2.30	24,642	26.42	13,846	10,796
	Oats (Grain)	297	Bu.	36	10,744	.90	9,669	22.26	6,612	3,057
	Oats (Sup.Past.)	(297)	Lbs.Beef	124	36,865	.2005	7,391	11.18	3,319	4,072
	Grain Sorghum	26	Bu.	25	650	1.53	994	22.13	575	419
	Perm. Pasture	543	Lbs.Beef	317	171,940	.2005	34,474	43.17	23,440	11,034
	Idle	335								
	Other	426								
	Woodland	5,898	Acres			5.46	32,203	3.19	18,814	13,389
	TOTAL	10,157 5/					345,836		265,664	80,172

1/ Farmsteads, farm roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages.
3/ Calculated from Columns 3 and 6; rounded to nearest unit
4/ Calculated from Columns 3 and 10; rounded to nearest cent
5/ Total area zone B reduced by 40 acres dedicated to woodland and 2,513 acres woodland not anticipated to be cleared.

Basin: L'Anguille River
 Reach: 3, L'Anguille River
 State: Arkansas

SUMMARY - TABLE IV B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return
All	Open land	10,157								
	Crops	9,141	Lbs. Lint	3/						
	Cotton	3,131		457	1,430,655	.25	357,663	120.29	376,632	62,149
	Cottonseed	(3,131)	Ton	412	1,287,59	63.00	81,118	-	-	-
	Corn	1,212	Bu.	37	44,808	1.45	64,971	30.87	37,413	27,558
	Rice	1,098	Cwt.	33	36,234	3.75	135,877	106.67	117,124	18,753
	Soybeans	1,461	Bu.	21	30,722	2.30	70,660	27.07	39,555	31,105
	Oats (Grain)	418	Bu.	37	15,570	.90	14,013	22.89	9,568	4,445
	Oats (Sup. Past)	(418)	Lbs. Beef	127	53,120	.2005	10,650	11.50	4,805	5,845
	Grain Sorghum	57	Bu.	25	1,425	1.53	2,180	22.13	1,261	919
	Perm. Pasture	933	Lbs. Beef	333	310,855	.2005	62,327	45.21	42,184	20,143
	Idle	831								
	Other	1,016								
	Woodland	-	Acres							
	TOTAL	10,157					799,459		628,542	170,917

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages.
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit.
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area zone B reduced by 40 acres dedicated to woodland and 2,513 acres woodland not anticipated to be cleared.

Basin: L'Anguille River
 Reach: 3, L'Anguille River
 State: Arkansas

TABLE II C
 ZONE OF NO PROJECT BENEFIT
 COMPUTATION OF AGRICULTURAL PRODUCTION
EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop		Production		
Unit	distribution	Acres	Unit	Per Acre	Total
4	1/				
	Open land	50			
	Crops	45			
	Corn	10	Bu.	40	400
	Soybeans	15	Bu.	21	315
	Idle	20			
	Other 2/	5			
	Woodland	238	Acres		
	TOTAL	288 3/			

- 1/ One soil only; no summary required
 2/ Farm roads, waste and non-agricultural
 3/ Total area zone C reduced by 639 acres water, 2,143 acres woodland not anticipated to be cleared and 80 acres dedicated to woodland.

Basin: L'Anguille River
 Reach: 3, L'Anguille River
 State: Arkansas

TABLE III C 1/
 ZONE OF NO PROJECT BENEFIT
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil : Land use and crop	:	:	:	Production	:	Value of production	:	Cost of production	:	Net
Unit : distribution	:	Acres	Unit	Per Acre	Total	Per Unit	Total	Per Acre	Total	Return
4 2/ Open land	:	288	:	:	:	Dollars	Dollars	Dollars	Dollars	Dollars
: Crops	:	259	:	:	:	:	:	:	:	:
: Corn	:	52	Bu.	46	2,392	1.45	3,468	38.64	2,009	1,459
: Soybeans	:	78	Bu.	29	2,262	2.30	5,203	33.06	2,579	2,624
: Grain Sorghum	:	64	Bu.	25	1,600	1.53	2,448	22.13	1,416	1,032
: Idle	:	65	:	:	:	:	:	:	:	:
: Other	:	29	:	:	:	:	:	:	:	:
: Woodland	:	-	Acres	:	:	:	:	:	:	:
: TOTAL	:	288 4/	:	:	:	:	11,119	:	6,004	5,115

1/ Data same for "future without" and "future with" project. No table IV C required
 2/ One soil only; no summary required.
 3/ Farm roads, waste and non-agricultural
 4/ Total area zone C reduced by 639 acres water, 2,143 acres woodland not anticipated to be cleared, and 80 acres dedicated to woodland.

Basin: L'Angeuille River
 Reach: 3, L'Angeuille River
 State: Arkansas

TABLE V
 REACH SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil Unit	Acre	Gross	Cost	Net	Gross	Cost	Net	Difference in Net Production
		Future Without Project (Production in Dollars)			Future With Project (Production in Dollars)			
8	1,143	16,206	10,771	5,435	98,200	76,148	22,052	16,617
9	24,188	1,413,717	1,122,609	291,108	2,435,281	2,009,096	426,185	135,077
10	26,702	695,260	552,268	142,992	1,992,316	1,565,726	426,590	283,598
Subtotal:	52,033 1/2	2,125,183	1,685,648	439,535	4,525,797	3,650,970	874,827	435,292
ZONES A - (not subject to flooding)								
4	1,568	65,552	48,106	17,446	148,152	117,150	31,002	13,556
6	4,880	55,984	41,621	14,363	357,141	280,116	77,025	62,662
9S	3,997	235,419	181,941	53,478	305,285	237,280	68,005	14,527
Subtotal:	10,445 2/3	356,955	271,668	85,287	810,578	634,546	176,032	90,745
TOTAL:	62,478	2,482,138	1,957,316	524,822	5,336,375	4,285,516	1,050,859	526,037

- 1/ Total area zone A reduced by 735 acres urban, 1,850 acres dedicated woodland, 25,371 acres woodland not anticipated to be cleared, and 66,504 acres already drained, not anticipated to be drained, or not needing drainage.
- 2/ Total area zones B and C reduced by 639 acres water, 120 acres dedicated woodland, and 4,656 acres woodland not anticipated to be cleared.

Basin: L'Anguille River
 Reach: 3, L'Anguille River
 State: Arkansas

TABLE VI
 LAND CONVERSIONS WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion 1/	Total Amount Acres	Cost of Clearing Dollars	Cost of Smoothing Dollars	Total Cost Dollars
Per Acre				
W to GC	xx	60	15	xx
W to IC	xx	60	15	xx
W to P	xx	60	xx	xx
P to GC	xx	xx	-	xx
P to IC	xx	xx	-	xx
GC to IC	xx	xx	xx	xx
GC to P	xx	xx	xx	xx
Project				
W to GC	17,451	1,047,060	261,765	1,308,825
W to IC	5,361	321,660	80,415	402,075
W to P	2,057	123,420	xx	123,420
P to GC	-	xx	-	-
P to IC	-	xx	-	-
GC to IC	-	xx	xx	-
GC to P	-	xx	xx	-
Total project	xx	1,492,140	342,180	1,834,320
Annual amortized value 2/	xx	xx	xx	100,484
Total annual cost of conversions	xx	xx	xx	100,484

1/ W-woodland; GC- general dry-farmed crops; IC- irrigated crops; (rice); P-pasture.

2/ Amortized over 50 years at 5 percent.

Basin: L'Anguille River
 Reach: 3, L'Anguille River
 State: Arkansas

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Zone	Soil mapping unit and land use	Area	Total Cost Installation 1/ Dollars	Annual Equivalent Cost 2/ Dollars	Annual Maintenance Cost Dollars	Total Annual Cost Dollars
A	8 - General crops	669	12,889	1,669	1,487	3,156
	8 - Rice	309	2,667	345	103	448
	8 - Pasture	51	784	102	30	132
	9 - General crops	18,504	246,085	31,868	28,394	60,262
	9 - Rice	1,088	9,391	1,216	361	1,577
	9 - Pasture	2,177	17,717	2,294	409	2,703
	10 - General crops	14,419	191,756	24,833	22,126	46,959
	10 - Rice	7,210	59,893	7,756	2,304	10,060
	10 - Pasture	2,403	19,961	2,585	768	3,353
	Subtotal	46,830 3/4	561,145	72,668	55,982	128,650
B	4 - General crops	551	7,328	949	846	1,795
	4 - Pasture	93	756	98	17	115
	6 - General crops	1,835	25,787	3,339	3,967	7,306
	6 - Rice	658	5,680	736	218	954
	6 - Pasture	131	1,841	238	142	380
	Subtotal	3,268 3/4	41,392	5,360	5,190	10,550
	TOTAL	50,098 3/4	602,537	78,028	61,172	139,200

1/ Includes engineering and contingency
 2/ Amortized over 10 years at 5 percent
 3/ Does not include 10 percent "other" land

Basin: L'Anguille River
 Reach: 3, L'Anguille River
 State: Arkansas

TABLE VIII
 ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation <u>1/</u>				
Spreading spoil <u>1/</u>				
Clearing right-of-way <u>1/</u>	Cubic Yard	3,727,820	0.18	671,008
Right-of-way easements	Acres	1,500	15.00	22,500
Crossings	Each	157	300.00	47,100
Swinging water gaps	Each	100	50.00	5,000
Pipe drop structures	Each	100	150.00	15,000
Flap gates	Each	36	100.00	3,600
Vegetative plantings	Acres	300	8.00	2,400
Total construction cost	xx	xx	xx	766,608
Engineering cost	xx	xx	xx	76,661
Contingencies and legal	xx	xx	xx	76,661
Total installation cost				919,930
Annual equivalent - installation cost (amortized for 20 years at $3\frac{1}{2}$ percent)				64,726
Annual maintenance cost				38,330
Annual loss of production - right-of-way <u>2/</u>				5,208
Total annual cost of required group facilities				108,264

1/ These items included in excavation costs under normal contract procedures.

2/ Annual loss of production - right-of-way. 600 acres @ \$8.68 per acre.

Basin: L'Anguille River
 Reach: 3, L'Anguille River
 State: Arkansas

TABLE IX
 SUMMARY OF ANNUAL NET PRODUCTION RETURNS
 AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted
	Dollars	Dollars
1. Net return with project	1,050,859	xx
2. Net return without project	524,822	xx
3. Gross benefit to project	526,037	290,877 <u>2/</u>
4. Farm drainage cost	xx	xx <u>2/</u>
a. Installation cost	78,028	xx
b. Maintenance cost	61,172	xx
c. Total	139,200	76,972
5. Group drainage cost	xx	xx <u>3/</u>
a. Installation cost	64,726	xx
b. Maintenance cost <u>1/</u>	43,538	xx
c. Total	108,264	81,189
6. Conversion cost	xx	xx <u>2/</u>
a. Installation cost	100,484	xx
b. Maintenance cost	-	xx
c. Total	100,484	55,564

1/ Includes loss of production, right-of-way

2/ Discounted at 5 percent to account for estimated 25 year lag to full installation, maintenance, and benefit accrual.

3/ Discounted at $3\frac{1}{2}$ percent to account for estimated 15 year lag to full installation, maintenance, and benefit accrual.

Basin: L'Anguille River
 Reach: 4, L'Anguille River
 State: Arkansas

TABLE I
 PRESENT LAND USE

Zone	Soil map- ping unit	Open (Acres)	Wooded (Acres)	Urban (Acres)	Water (Acres)	Total (Acres)
Zone A	4	17	9	-	-	26
	6	-	156	-	-	156
	7	346	95	-	-	441
	9	15,461	1,455	-	-	16,916
	9S	4,149	762	-	-	4,911
	10	22,070	4,980	-	-	27,050
	15S	9,008	7,536	-	-	16,544
Subtotal - all soils		51,051	14,993	-	-	66,044
Urban		-	-	199	-	199
Watered		-	-	-	10	10
Total - Zone A		51,051	14,993	199	10	66,253
Zone B	4	103	24	-	-	127
	6	356	4,719	-	-	5,075
	9S	1,302	551	-	-	1,853
	10	3,406	1,703	-	-	5,109
Subtotal - all soils		5,167	6,997	-	-	12,164
Urban		-	-	-	-	-
Watered		-	-	-	653	653
Total - Zone B		5,167	6,997	-	653	12,817
GRAND TOTAL - Reach 4		56,218	21,990	199	663	79,070

Basin: L'Anguille River
 Reach: 4, L'Anguille River
 State: Arkansas

SUMMARY - TABLE II A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop	2/	Production		
Unit	distribution	Acres	Unit	Per Acre	Total
All	Open land	34,129			
	Crops	30,717		3/	
	Cotton	5,248	Lbs. Lint	287	1,505,285
	Cottonseed	(5,248)	Ton	.2581	1,354,74
	Corn	1,006	Bu.	27	26,815
	Rice	6,276	Cwt.	24	150,624
	Soybeans	9,610	Bu.	14	132,607
	Oats (Grain)	3,346	Bu.	22	73,955
	Oats (Sup. Past.)	(2,377)	Lbs. Beef	64	151,840
	Grain Sorghum	639	Bu.	16	10,224
	Perm. Pasture	2,698	Lbs. Beef	180	485,640
	Idle	1,894			
	Other 1/	3,412			
	Woodland	6,695	Acres		
	TOTAL	40,824 4/			

- 1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Total area Zone A reduced by 199 acres urban, 10 acres water, and 25,220 acres already drained or not requiring drainage.

Basin: L'Anguille River
Reach: 4, L'Anguille River
State: Arkansas

SUMMARY-TABLE III A
ZONE FOR DRAINAGE CALCULATIONS ONLY
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
PRODUCTION COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
(Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil Unit	Land use and crop distribution	Acres	Unit	Production Per Acre	Total	Value of production Per Unit	Total	Cost of production Per Acre	Total	Return
ALL	Open land	22,616								
	Crops	20,355								
	Cotton	5,528	Lbs. Lint	305 ^{3/4}	1,685,610	.25	421,402	85.27 ^{4/4}	471,364	45,611
	Cottonseed	(5,528)	Ton	.2744	1,517.04	63.00	95,573			
	Corn	27	Bu.	44	1,188	1.45	1,723	36.85	995	728
	Rice	6,304	Cwt.	25	157,600	3.75	590,999	87.64	552,482	38,517
	Soybeans	3,409	Bu.	17	58,073	2.30	133,568	23.47	80,007	53,561
	Oats (Grain)	2,021	Bu.	25	49,965	.90	44,968	16.86	34,071	10,897
	Oats (Sup. Past.)	(1,429)	Lbs. Beef	75	107,855	.2005	21,625	5.96	8,511	13,114
	Perm. Pasture	1,450	Lbs. Beef	214	310,785	.2005	62,312	30.29	43,924	18,388
	Idle	1,616								
	Other ^{1/}	2,261								
	Woodland	1,531	Acres			8.59	13,151	4.94	7,562	5,589
	TOTAL	24,447 ^{5/}	Acres				1,385,321		1,198,916	186,405

- ^{1/} Farmsteads, farm roads, waste and non-agricultural
^{2/} Parenthetical amounts are duplicated acreages
^{3/} Calculated from Columns 3 and 6; rounded to nearest unit
^{4/} Calculated from Columns 3 and 10; rounded to nearest cent
^{5/} Total area Zone A reduced by 199 acres urban, 10 acres watered, 5,164 acres woodland not anticipated to be cleared, and 36,733 acres already drained, not requiring drainage or not anticipated to be drained.

Basin: L'Anguille River
Reach: 4, L'Anguille River
State: Arkansas

SUMMARY - TABLE IV A
ZONE FOR DRAINAGE CALCULATIONS ONLY, COMPUTATION
OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
(Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	land use and crop	2/	Unit	Production	Total	Value of production	Cost of production	Net		
Unit	distribution	Acres	Unit	Per Acre	Total	Per Unit	Total	Per Acre	Total	Return
All	Open land	24,147								
	Crops	21,732								
	Cotton	6,535	Lbs. lint	551 3/4	3,599,520	.25	899,880	153.70	1,003,780	100,192
	Cottonseed	(6,535)	Ton	4957	3,239,56	63.00	204,092			
	Corn	29	Bu.	58	1,682	1.45	2,439	48.43	1,404	1,035
	Rice	6,086	Cwt.	35	213,010	3.75	798,788	111.17	676,581	122,207
	Soybeans	3,910	Bu.	21	80,974	2.30	186,240	26.80	104,798	81,442
	Oats (Grain)	1,508	Bu.	38	57,720	.90	51,948	23.37	35,242	16,706
	Oats (Sup. Past.)	(1,508)	Lbs. Beef	110	165,750	.2005	33,233	9.65	14,558	18,675
	Perm. Pasture	1,920	Lbs. Beef	341	654,010	.2005	131,129	46.13	88,564	42,565
	Idle	1,714								
	Other 1/	2,415								
	Woodland		Acres							
	TOTAL	24,147 5/					2,307,749		1,924,927	382,822

- 1/ Farmsteads, farm roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages
3/ Calculated from Columns 3 and 6; rounded to nearest unit
4/ Calculated from Columns 3 and 10; rounded to nearest cent
5/ Total area Zone A reduced by 199 acres urban, 10 acres water, 5,164 acres woodland not
anticipated to be cleared, and 36,733 acres already drained, not requiring drainage, or
not anticipated to be drained.

Basin: L'Anguille River
 Reach: 4, L'Anguille River
 State: Arkansas

SUMMARY TABLE II B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop	<u>2/</u>		Production	
Unit	distribution	Acres	Unit	Per Acre	Total
All	Open land	5,167			
	Crops	4,650		<u>3/</u>	
	Cotton	624	Lbs.Lint:	271	169,165
	Cottonseed	(624)	Ton	2440	152.24
	Corn	124	Bu.	23	2,852
	Rice	819	Cwt.	26	20,973
	Soybeans	1,485	Bu.	13	19,999
	Oats (Grain)	642	Bu.	23	14,702
	Oats (Sup.Past.)	(473)	Lbs.Beef:	78	36,690
	Perm. Pasture	561	Lbs.Beef:	193	108,525
	Idle	395			
	Other <u>1/</u>	517			
	Woodland	6,997	Acres		
	TOTAL	12,164 <u>4/</u>			

1/ Farmsteads, farm roads, waste and non-agricultural

2/ Parenthetical amounts are duplicated acreages

3/ Calculated from Columns 3 and 6; rounded to nearest unit

4/ Total area Zone B reduced by 653 acres water

Basin: L'Anguille River
 Reach: 4, L'Anguille River
 State: Arkansas

SUMMARY - TABLE III B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1) Soil: Land use and crop	(2) Unit: distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return
ALL : Open land		6,037								
: Crops		5,433								
: Cotton		1,021	Lbs. lint	34 3/4	349,905	.25	87,476	4/	93.85	95,826
: Cottonseed		(1,021)	Ton	.3084	314.92	63.00	19,840			11,490
: Corn		252	Bu.	25	6,300	1.45	9,135			3,402
: Rice		1,289	Cwt.	28	35,643	3.75	133,661			11,617
: Soybeans		1,274	Bu.	17	21,258	2.30	48,893			19,239
: Oats (Grain)		557	Bu.	29	16,008	.90	14,407			3,996
: Oats (Sup. Past.)		(389)	Lbs. Beef	97	37,640	.2005	7,547			4,343
: Grain Sorghum		103	Bu.	19	1,999	1.53	3,058			1,134
: Perm. Pasture		436	Lbs. Beef	269	117,460	.2005	23,551			7,245
: Idle		501								
: Other 1/		604								
: Woodland		3,440	Acres			5.18	17,820		2.80	8,188
: TOTAL		9,477 5/					365,388			70,654

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages
 3/ Calculated from Columns 3 and 6; rounded to nearest unit.
 4/ Calculated from Columns 3 and 10; rounded to nearest cent.
 5/ Total area Zone B reduced by 653 acres: water and 2,687 acres woodland not anticipated to be cleared.

Basin: L'Anguille River
 Reach: 4, L'Anguille River
 State: Arkansas

SUMMARY - TABLE IV B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil: Land use and crop	Acres	Unit	Production	Per Acre	Total	Value of production	Cost of production	Net	Return	
Unit: distribution						Per Unit	Per Acre	Total		
All : Open land	9,477									
: Crops	8,530									
: Cotton	1,483	Lbs. lint	485	3/	719,170	.25	179,792	133.12	197,415	23,154
: Cottonseed	(1,483)	Ton	4364		647.25	63.00	40,777			
: Corn	943	Bu.	48		45,264	1.45	65,633			
: Rice	1,913	Cwt.	33		63,129	3.75	236,733			
: Soybeans	1,379	Bu.	20		28,159	2.30	64,766			
: Oats (Grain)	909	Bu.	34		30,921	.90	27,829			
: Oats (Sup. Past.)	(608)	Lbs. Beef	103		62,500	.2005	12,531			
: Grain Sorghum	497	Bu.	20		9,914	1.53	15,169			
: Perm. Pasture	729	Lbs. Beef	324		235,905	.2005	47,300			
: Idle	677									
: Other	947									
: Woodland	-	Acres								
TOTAL	9,477						690,530		548,725	141,805

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area Zone B reduced by 653 acres water and 2,687 acres woodland not anticipated to be cleared.

Basin: L'Anguille River
 Reach: 4, L'Anguille River
 State: Arkansas

TABLE V
 REACH SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil Unit	Acres	Gross	Cost	Net	Gross	Cost	Net	Difference in Net Production
		(Future Without Project (Production in Dollars))			(Future With Project (Production in Dollars))			
ZONE A -(not subject to flooding)								
7	163	10,891	8,161	2,730	15,419	11,655	3,764	1,034
9	9,537	647,245	542,384	104,861	968,131	800,258	167,873	63,012
10	14,447	727,185	648,371	78,814	1,324,199	1,113,014	211,185	132,371
Subtotal	24,147 1/2	1,385,321	1,198,916	186,405	2,307,749	1,924,927	382,822	196,417
ZONE B -(subject to flooding)								
6	3,494	61,379	44,854	16,525	264,769	206,240	58,529	42,604
9S	1,555	83,611	60,195	23,416	83,224	57,219	26,005	2,589
10	4,428	220,398	189,685	30,713	342,537	285,266	57,271	26,558
Subtotal	9,477 2/3	365,388	294,734	70,654	690,530	548,725	141,805	71,151
TOTAL	33,624	1,750,709	1,493,650	257,059	2,998,279	2,473,652	524,627	267,568

1/ Total area Zone A reduced by 199 acres urban, 10 acres water, 5,164 acres woodland not anticipated to be cleared, and 36,733 acres already drained, not requiring drainage, or not anticipated to be drained.
 2/ Total area Zone B reduced by 653 acres water, and 2,687 acres woodland not anticipated to be cleared.

Basin: L'Anguille River
 Reach: 4, L'Anguille River
 State: Arkansas

TABLE VI
 LAND CONVERSION WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion <u>1/</u>	Total	Cost	Cost	Total
	Amount	of Clearing	of Smoothing	Cost
Per Acre	: Acres	: Dollars	: Dollars	: Dollars
W to GC	: xx	: 60	: 15	: xx
W to IC	: xx	: 60	: 15	: xx
W to P	: xx	: 60	: xx	: xx
P to GC	: xx	: xx	: -	: xx
P to IC	: xx	: xx	: -	: xx
GC to IC	: xx	: xx	: xx	: xx
GC to P	: xx	: xx	: xx	: xx
Project	:	:	:	:
W to GC	: 3,519	: 211,140	: 52,785	: 263,925
W to IC	: 689	: 41,340	: 10,335	: 51,675
W to P	: 763	: 45,780	: xx	: 45,780
P to GC	: -	: xx	: -	: -
P to IC	: -	: xx	: -	: -
GC to IC	: -	: xx	: xx	: -
GC to P	: -	: xx	: xx	: -
Total project	: xx	: 298,260	: 63,120	: 361,380
Annual amortized value <u>2/</u>	: xx	: xx	: xx	: 19,796
Total annual cost of conversions	: xx	: xx	: xx	: 19,796

1/ W-woodland; GC-general dry-farmed crops; IC-irrigated crops; (rice); P-pasture.

2/ Amortized over 50 years at 5 percent.

Basin: L'Anguille River
 Reach: 4, L'Anguille River
 State: Arkansas

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

Zone	Soil mapping unit and land use	Area Acres	Total Cost 1/ Installation	Annual Equivalent 2/ Instl. Cost	Annual Maintenance Cost	Total Annual Cost
			Dollars	Dollars	Dollars	Dollars
A	7 - General crops	125	2,407	312	278	590
	7 - Pasture	22	338	44	13	57
	9 - General crops	5,150	68,489	8,869	7,903	16,772
	9 - Rice	2,575	22,228	2,879	855	3,734
	9 - Pasture	858	6,982	904	161	1,065
	10 - General crops	8,451	112,390	14,555	12,968	27,523
	10 - Rice	3,511	29,165	3,777	1,122	4,899
	10 - Pasture	1,040	8,640	1,119	332	1,451
	Subtotal	21,732 3/	250,639	32,459	23,632	56,091
	6 - General crops	1,498	21,051	2,726	3,239	5,965
B	6 - Rice	394	3,401	440	131	571
	6 - Pasture	96	1,350	175	104	279
	10 - General crops	1,447	19,244	2,492	2,220	4,712
	10 - Rice	792	6,579	852	253	1,105
	10 - Pasture	219	1,819	236	70	306
	Subtotal	4,446 3/	53,444	6,921	6,017	12,938
	TOTAL	26,178 3/	304,083	39,380	29,649	69,029

- 1/ Includes engineering and contingency
 2/ Amortized over 10 years at 5 percent
 3/ Does not include 10 percent "other" land.

Basin: L'Anguille River
 Reach: 4, L'Anguille River
 State: Arkansas

TABLE VIII
 ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation <u>1/</u>				
Spreading spoil <u>1/</u>				
Clearing right-of-way <u>1/</u>	Cubic Yard	1,297,000	0.20	259,400
Right-of-way easements	Acres	941	15.00	14,115
Crossings	Each	98	300.00	29,400
Swinging water gaps	Each	63	40.00	2,520
Pipe drop structures	Each	63	150.00	9,450
Flap gates	Each	30	100.00	3,000
Vegetative plantings	Acres	188	8.00	1,504
Total construction cost	xx	xx	xx	319,389
Engineering cost	xx	xx	xx	31,939
Contingencies and legal	xx	xx	xx	31,939
Total installation cost				383,267
Annual equivalent - installation cost (amortized for 20 years at $3\frac{1}{2}$ percent)				26,967
Annual maintenance cost				15,969
Annual loss of production, right-of-way <u>2/</u>				2,685
Total annual cost of required group facilities				45,621
<u>1/</u> These items included in excavation costs under normal contract procedures.				
<u>2/</u> Annual loss of production - right-of-way. 376 acres @ \$7.14 per acre.				

Basin: L'Anguille River
 Reach: 4, L'Anguille River
 State: Arkansas

TABLE IX
 SUMMARY OF ANNUAL NET PRODUCTION RETURNS
 AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted Amount
	Dollars	Dollars
1. Net return with project	524,627	xx
2. Net return without project	257,059	xx
3. Gross benefit to project	267,568	147,954 <u>2/</u>
4. Farm drainage cost	xx	xx <u>2/</u>
a. Installation cost	39,380	xx
b. Maintenance cost	29,649	xx
c. Total	69,029	38,170
5. Group drainage cost	xx	xx <u>3/</u>
a. Installation cost	26,967	xx
b. Maintenance cost <u>1/</u>	18,654	xx
c. Total	45,621	34,212
6. Conversion cost	xx	xx <u>2/</u>
a. Installation cost	19,796	xx
b. Maintenance cost	-	xx
c. Total	19,796	10,946

1/ Includes loss of production, right-of-way

2/ Discounted at 5 percent to account for estimated 25 year lag to full installation, maintenance, and benefit accrual.

3/ Discounted at $3\frac{1}{2}$ percent to account for estimated 15 year lag to full installation, maintenance, and benefit accrual.

Basin: L'Anguille River
 Reach: 5, L'Anguille River
 State: Arkansas

TABLE I
 PRESENT LAND USE

Zone	Soil map- ping unit	: Open (Acres)	: Wooded (Acres)	: Urban (Acres)	: Water (Acres)	: Total (Acres)
Zone A	: 8	: 329	: 580	: -	: -	: 909
	: 9	: 4,833	: 511	: -	: -	: 5,344
	: 10	: 54,611	: 17,878	: -	: -	: 72,489
	: 15S	: 7,232	: 8,930	: -	: -	: 16,162
Subtotal - all soils		: 67,005	: 27,899	: -	: -	: 94,904
Urban		: -	: -	: 270	: -	: 270
Water		: -	: -	: -	: -	: -
Total - Zone A		: 67,005	: 27,899	: 270	: -	: 95,174
Zone B	: 6	: 219	: 1,876	: -	: -	: 2,095
	: 8	: 1,706	: 2,867	: -	: -	: 4,573
	: 10	: 20,039	: 8,446	: -	: -	: 28,485
Subtotal - all soils		: 21,964	: 13,189	: -	: -	: 35,153
Urban		: -	: -	: -	: -	: -
Water		: -	: -	: -	: 155	: 155
Total - Zone B		: 21,964	: 13,189	: -	: 155	: 35,308
GRAND TOTAL- Reach 5		: 88,969	: 41,088	: 270	: 155	: 130,482

Basin: L'Anguille River
 Reach: 5, L'Anguille River
 State: Arkansas

SUMMARY - TABLE II A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop	2/	Production		
Unit	distribution	Acres	Unit	Per Acre	Total
All	Open land	54,345			
	Crops	48,911		3/	
	Cotton	6,399	Lbs.Lint:	256	1,638,410
	Cottonseed	(6,399)	Ton	.2304	1,474,57
	Corn	2,735	Bu.	22	59,523
	Rice	10,544	Cwt.	24	253,056
	Soybeans	20,454	Bu.	13	268,619
	Oats (Grain)	2,724	Bu.	21	56,811
	Oats (Sup.Past.)	(2,692)	Lbs.Beef:	58	155,245
	Perm. Pasture	3,611	Lbs.Beef:	180	649,980
	Idle	2,444			
	Other 1/	5,434			
	Woodland	17,664	Acres		
	TOTAL	72,009 4/			

- 1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Total area Zone A reduced by 270 acres urban, 1,305 acres dedicated to woodland, and 21,590 acres already drained or not requiring drainage.

Basin: L'Anguille River
Reach: 5, L'Anguille River
State: Arkansas

SUMMARY - TABLE III A
ZONE FOR DRAINAGE CALCULATIONS ONLY
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
PRODUCTION COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
(Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil: Land use and crop	Acres	Unit	Production	Per Acre	Total	Value of production Per Unit	Cost of production Per Acre	Net	Return	
Unit: distribution	Acres	Unit	Production	Per Acre	Total	Per Unit	Total	Per Acre	Total	Return
All : Open land	35,767									
: Crops	32,190									
: Cotton	5,102	Lbs. Lint	278	3/	1,418,585	.25	354,646	79.92	407,762	27,317
: Cottonseed	(5,102)	Ton	2502		1,276,72	63.00	80,433			
: Corn	251	Bu.	30		7,530	1.45	10,918	25.78	6,471	4,447
: Rice	9,214	Cwt.	25		230,350	3.75	863,812	87.64	807,515	56,297
: Soybeans	8,802	Bu.	15		128,462	2.30	295,463	21.43	188,623	106,840
: Oats (Grain)	3,925	Bu.	22		86,336	.90	77,702	15.61	61,256	16,446
: Oats (Sup.Past.)	(3,287)	Lbs. Beef	59		195,030	.2005	39,103	4.22	13,861	25,242
: Perm. Pasture	3,287	Lbs. Beef	191		628,445	.2005	126,003	27.04	88,878	37,125
: Idle	1,609									
: Other	3,577									
: Woodland	7,682	Acres				8.17	62,762	4.58	35,184	27,578
: TOTAL	43,449	5/					1,910,842		1,609,550	301,292

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area Zone A reduced by 1,305 acres dedicated to woodland, 270 acres urban, and 40,168 acres already drained, not requiring drainage or not anticipated to be drained, and 9,982 acres woodland not anticipated to be cleared.

Basin: L'Anguille River
Reach: 5, L'Anguille River
State: Arkansas

SUMMARY - TABLE IV A.
ZONE FOR DRAINAGE CALCULATIONS ONLY
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
(Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	2/ Acres	Unit	Production Per Acre	Total	Value of production Per Unit	Total	Cost of production Per Acre	Total	Net Return
All	Open land	43,449								
	Crops	39,105		3/ 562	3,444,285	.25	861,071	4/ 158.36	971,040	85,322
	Cotton	6,132	Lbs. lint	5055	3,099,85	63.00	195,291			
	Cottonseed	(6,132)	Ton	40	10,040	1.45	14,558	33.45	8,396	6,162
	Corn	251	Bu.	35	394,975	3.75	1,481,155	111.17	1,254,554	226,601
	Rice	11,285	Cwt.	20	216,682	2.30	498,369	26.46	283,985	214,384
	Soybeans	10,731	Bu.	36	172,843	.90	155,558	22.39	106,271	49,287
	Oats (Grain)	4,746	Bu.	94	377,280	.2005	75,644	7.97	31,922	43,722
	Oats (Sup. Past.)	(4,005)	Lbs. Beef	382	1,530,185	.2005	306,802	54.79	219,431	87,371
	Perm. Pasture	4,005	Lbs. Beef							
	Idle	1,955								
	Other	4,344								
	Woodland	-	Acres							
	TOTAL	43,449	5/				3,588,448		2,875,599	712,849

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area Zone A reduced by 1,305 acres dedicated to woodland, 270 acres urban, 9,982 acres woodland not anticipated to be cleared, and 40,168 acres already drained, not requiring drainage or not anticipated to be drained.

Basin: L'Anguille River
 Reach: 5, L'Anguille River
 State: Arkansas

SUMMARY FOR TABLE II B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop	<u>2/</u>	Production		
Unit	distribution	Acres	Unit	Per Acre	Total
All	Open land	21,964			
	Crops	19,767		<u>3/</u>	
	Cotton	2,184	Lbs.Lint	255	556,320
	Cottonseed	(2,184)	Ton	.2293	500.69
	Corn	961	Bu.	22	21,024
	Rice	4,575	Cwt.	24	110,034
	Soybeans	8,527	Bu.	13	111,443
	Oats (Grain)	1,071	Bu.	21	21,984
	Oats (Sup.Past.)	(902)	Lbs.Beef	55	49,610
	Perm. Pasture	1,451	Lbs.Beef	184	267,490
	Idle	998			
	Other <u>1/</u>	2,197			
	Woodland	11,753	Acres		
	TOTAL	33,717 <u>4/</u>			

- 1/ Farmsteads, farm roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages
3/ Calculated from Columns 3 and 6; rounded to nearest unit
4/ Total area Zone B reduced by 155 acres water and 1,436 acres dedicated to woodland.

Basin: L'Anguille River
Reach: 5, L'Anguille River
State: Arkansas

SUMMARY - TABLE III B
ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
(Based on projected prices)

(1) Soil: Unit:	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return
ALL	Open land	23,344								
	Crops	21,010								
	Cotton	2,304	Lbs. lint	3/295	678,580	.25	169,645	4/83.19	191,681	16,439
	Cottonseed	(2,304)	Ton	.2651	610,72	63.00	38,475			
	Corn	1,011	Bu.	25	25,098	1.45	36,392	22.65	22,902	13,490
	Rice	5,456	Cwt.	27	146,113	3.75	547,923	92.60	505,199	42,724
	Soybeans	7,341	Bu.	15	110,755	2.30	254,736	21.90	160,763	93,973
	Oats (Grain)	1,545	Bu.	23	36,228	.90	32,605	16.17	24,981	7,624
	Oats (Sup. Past.)	(1,332)	Lbs. Beef	60	79,920	.2005	16,024	4.29	5,714	10,310
	Perm. Pasture	2,102	Lbs. Beef	214	449,750	.2005	90,175	30.58	64,278	25,897
	Idle	1,251								
	Other	2,334								
	Woodland	5,936	Acres			9.60	56,986		28,374	28,612
	TOTAL	29,280					1,242,961		1,003,892	239,069

1/ Farmsteads, farm roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages
3/ Calculated from Columns 3 and 6; rounded to nearest unit
4/ Calculated from Columns 3 and 10; rounded to nearest cent
5/ Total area Zone B reduced by 155 acres water, 1,436 acres dedicated to woodland,
and 4,437 acres woodland not anticipated to be cleared.

Basin: Languille River
 Reach: 5, Languille River
 State: Arkansas

SUMMARY - TABLE IV B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION
 COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	Acres	Unit	Production	Value of production	Cost of production	Net	Return		
Unit	distribution			Per Acre	Total	Per Unit	Total	Per Acre	Total	Return
All	Open land	29,280				Dollars	Dollars	Dollars	Dollars	Dollars
	Crops	26,352								
	Cotton	3,024	Lbs. lint	436	1,317,210	25	329,303	117.64	355,747	48,242
	Cottonseed	(3,024)	Ton	3920	1,185,49	63.00	74,686			
	Corn	1,460	Bu.	34	48,975	1.45	71,013	28.19	41,159	29,854
	Rice	6,692	Cwt.	32	213,572	3.75	800,894	104.24	697,564	103,330
	Soybeans	9,499	Bu.	18	173,866	2.30	399,891	24.78	235,362	164,529
	Oats (Grain)	1,916	Bu.	32	61,844	.90	55,660	20.35	38,992	16,668
	Oats (Sup. Past.)	(1,916)	Lbs. Beef	82	157,270	2005	31,533	6.66	12,767	18,766
	Perm. Pasture	2,445	Lbs. Beef	325	795,385	2005	159,475	46.25	113,090	46,385
	Idle	1,316								
	Other	2,928								
	Woodland		Acres							
	TOTAL	29,280					1,922,455		1,494,681	427,774

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area Zone B reduced by 155 acres water, 1,436 acres dedicated to woodland, and 4,437 acres woodland not anticipated to be cleared.

Basin: L'Anguille River
 Reach: 5, L'Anguille River
 State: Arkansas

TABLE V
 REACH SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil		Future Without Project			Future With Project			Difference
Unit	Acres	Gross	Cost	Net	Gross	Cost	Net	Production in Net
ZONE A - (not subject to flooding)								
8	515	16,390	13,249	3,141	40,926	30,087	10,839	7,698
9	3,480	209,053	163,746	45,307	300,942	237,466	63,476	18,169
10	39,454	1,685,399	1,432,555	252,844	3,246,580	2,608,046	638,534	385,690
Subtotal	43,449	1,910,842	1,609,550	301,292	3,588,448	2,875,599	712,849	411,557
ZONE B - (subject to flooding)								
6	632	13,833	9,968	3,865	45,030	34,388	10,642	6,777
8	2,460	101,045	82,856	18,189	163,412	123,061	40,351	22,162
10	26,188	1,128,083	911,068	217,015	1,714,013	1,337,232	376,781	159,766
Subtotal	29,280	1,242,961	1,003,892	239,069	1,922,455	1,494,681	427,774	188,705
TOTAL	72,729	3,153,803	2,613,442	540,361	5,510,903	4,370,280	1,140,623	600,262

1/ Total area Zone A reduced by 1,305 acres dedicated woodland, 270 acres urban, 9,982 acres woodland not anticipated to be cleared and 40,168 acres already drained, not requiring drainage, or not anticipated to be drained.

2/ Total area Zone B reduced by 155 acres water, 1,436 acres dedicated woodland, and 4,437 acres not anticipated to be cleared.

Basin: L'Anguille River
 Reach: 5, L'Anguille River
 State: Arkansas

TABLE VI
 LAND CONVERSIONS WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion <u>1/</u>	Total Amount	Cost of Clearing	Cost of Smoothing	Total Cost
	Acres	Dollars	Dollars	Dollars
<u>Per Acre</u>	:	:	:	:
W to GC	: xx	: 60:	15:	xx
W to IC	: xx	: 60:	15:	xx
W to P	: xx	: 60:	xx:	xx
P to GC	: xx	: xx:	- :	xx
P to IC	: xx	: xx:	- :	xx
GC to IC	: xx	: xx:	xx:	xx
GC to P	: xx	: xx:	xx:	xx
	:	:	:	:
<u>Project</u>	:	:	:	:
W to GC	: 9,250	: 555,000:	138,750:	693,750
W to IC	: 3,307	: 198,420:	49,605:	248,025
W to P	: 1,061	: 63,660:	xx:	63,660
P to GC	: -	: xx:	- :	-
P to IC	: -	: xx:	- :	-
GC to IC	: -	: xx:	xx:	-
GC to P	: -	: xx:	xx:	-
	:	:	:	:
Total project	: xx	: 817,080:	188,355:	1,005,435
	:	:	:	:
Annual amortized value <u>2/</u>	: xx	: xx:	xx:	55,078
	:	:	:	:
Total annual cost of conversions	: xx	: xx:	xx:	55,078
	:	:	:	:

1/ W-woodland; GC-general dry-farmed crops; IC-irrigated crops; (rice); P-pasture.

2/ Amortized over 50 years at 5 percent.

Basin: L'Anguille River
 Reach: 5, L'Anguille River
 State: Arkansas

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

Zone	Soil mapping unit and land use	Area Acres	Total Cost Installation	Annual Equivalent Cost ^{1/}	Annual Maintenance Cost	Total Annual Cost
			Dollars	Dollars	Dollars	Dollars
A	8 - General crops	255	4,913	636	567	1,203
	8 - Rice	162	1,399	181	54	235
	8 - Pasture	47	723	94	28	122
	9 - General crops	2,255	29,990	3,884	3,460	7,344
	9 - Rice	470	4,057	525	156	681
	9 - Pasture	407	3,313	429	76	505
	10 - General crops	21,305	283,335	36,692	32,692	69,384
	10 - Rice	10,653	88,495	11,460	3,404	14,864
	10 - Pasture	3,551	29,498	3,820	1,135	4,955
	Subtotal	39,105 ^{3/}	445,723	57,721	41,572	99,293

^{1/} Includes engineering and contingency
^{2/} Amortized over 10 years at 5 percent
^{3/} Total does not include 10 percent "other" land.

Basin: I'Anguille River
 Reach: 5, I'Anguille River
 State: Arkansas

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

Zone	Soil mapping unit and land use	Area Acres	Total Cost Installation ^{1/}	Annual Equivalent Cost ^{2/}	Annual Maintenance Cost	Total Annual Cost
			Dollars	Dollars	Dollars	Dollars
B	6 - General crops	239	3,359	435	517	952
	6 - Rice	68	587	76	23	99
	6 - Pasture	34	479	62	37	99
	8 - General crops	820	15,797	2,046	1,823	3,869
	8 - Rice	446	3,849	498	148	646
	8 - Pasture	173	2,658	344	102	446
	10 - General crops	9,239	122,869	15,912	14,177	30,089
	10 - Rice	3,486	28,959	3,750	1,114	4,864
	10 - Pasture	1,219	10,126	1,311	389	1,700
	Subtotal	15,724 ^{3/}	188,683	24,434	18,330	42,764
	TOTAL	54,829 ^{3/}	634,406	82,155	59,902	142,057

- ^{1/} Includes engineering and contingency
^{2/} Amortized over 10 years at 5 percent
^{3/} Total does not include 10 percent "other" land.

Basin: L'Anguille River
 Reach: 5, L'Anguille River
 State: Arkansas

TABLE VIII
 ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation <u>1/</u>				
Spreading spoil <u>1/</u>				
Clearing right-of-way <u>1/</u>	Cubic Yard	3,098,890	0.20	619,778
Right-of-way easements	Acres	825	15.00	12,375
Crossings	Each	172	350.00	60,200
Swinging water gaps	Each	110	50.00	5,500
Pipe drop structures	Each	220	150.00	33,000
Flap gates	Each	100	100.00	10,000
Vegetative plantings	Acres	248	8.00	1,984
Total construction cost:	xx	xx	xx	742,837
Engineering cost	xx	xx	xx	74,284
Contingencies & legal	xx	xx	xx	74,284
Total installation cost				891,405
Annual equivalent - installation cost (amortized for 20 years at $3\frac{1}{2}$ percent)				62,719
Annual maintenance cost				44,570
Annual loss of production - right-of-way <u>2/</u>				2,343
Total annual cost of required group facilities				109,632

1/ These items included in excavation costs under normal contract procedures.

2/ Annual loss of production - right-of-way. 330 acres @ \$7.10 per acre.

Basin: L'Anguille River
 Reach: 5, L'Anguille River
 State: Arkansas

TABLE IX.
 SUMMARY OF ANNUAL NET PRODUCTION RETURNS
 AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted
	Dollars	Dollars
1. Net return with project	1,140,623	xx
2. Net return without project	540,361	xx
3. Gross benefit to project	600,262	331,921 <u>2/</u>
4. Farm drainage cost	xx	xx <u>2/</u>
a. Installation cost	82,155	xx
b. Maintenance cost	59,902	xx
c. Total	142,057	78,552
5. Group drainage cost	xx	xx <u>3/</u>
a. Installation cost	62,719	xx
b. Maintenance cost <u>1/</u>	46,913	xx
c. Total	109,632	82,215
6. Conversion cost	xx	xx <u>2/</u>
a. Installation cost	55,078	xx
b. Maintenance cost	-	xx
c. Total	55,078	30,456

1/ Includes loss of production, right-of-way

2/ Discounted at 5 percent to account for estimated 25 year lag to full installation, maintenance, and benefit accrual.

3/ Discounted at $3\frac{1}{2}$ percent to account for estimated 15 year lag to full installation, maintenance, and benefit accrual.

Basin: L'Anguille River

Project: Brushy Creek

State: Arkansas

TABLE I
PRESENT LAND USE

Zone	Soil map- ping unit	Open (Acres)	Wooded (Acres)	Urban (Acres)	Water (Acres)	Total (Acres)
Zone A	8	1,611	1,923	-	-	3,534
	9	2,339	191	-	-	2,530
	9S	693	130	-	-	823
	10	39,696	9,155	-	-	48,851
Subtotal - all soils		44,339	11,399	-	-	55,738
Urban		-	-	130	-	130
Water		-	-	-	25	25
Total - Zone A		44,339	11,399	130	25	55,893
Zone B	6	-	132	-	-	132
	8	919	2,396	-	-	3,315
	9	789	151	-	-	940
	9S	260	265	-	-	525
	10	4,230	2,226	-	-	6,456
Subtotal - all soils		6,198	5,170	-	-	11,368
Urban		-	-	-	-	-
Water		-	-	-	86	86
Total - Zone B		6,198	5,170	-	86	11,454
GRAND TOTAL- Project		50,537	16,569	130	111	67,347

Basin:	<u>L'Anguille River</u>
Project:	<u>Brushy Creek</u>
State:	<u>Arkansas</u>

SUMMARY - TABLE II A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop	<u>2/</u>		Production	
Unit	distribution	Acres	Unit	Per Acre	Total
All	Open land	41,026			
	Crops	36,923		<u>3/</u>	
	Cotton	3,142	Lbs.Lint	254	798,585
	Cottonseed	(3,142)	Ton	.2287	718.73
	Corn	159	Bu.	25	3,975
	Rice	11,896	Cwt.	24	285,504
	Soybeans	10,029	Bu.	13	132,450
	Oats (Grain)	5,397	Bu.	20	108,633
	Oats (Sup.Past.)	(5,256)	Lbs.Beef	56	292,005
	Perm. Pasture	4,314	Lbs.Beef	180	776,520
	Idle	1,986			
	Other <u>1/</u>	4,103			
	Woodland	9,812	Acres		
	TOTAL	50,838 <u>4/</u>			

- 1/ Farmsteads, farm roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages.
3/ Calculated from Columns 3 and 6; rounded to nearest unit
4/ Total area zone A reduced by 130 acres urban, 25 acres watered, 1,457 acres dedicated to woodland, and 3,443 acres already drained or not requiring drainage.

Basin: L'Anguille River
Project: Brushy Creek
State: Arkansas

SUMMARY - TABLE III A
ZONE FOR DRAINAGE CALCULATIONS ONLY
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION
COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
(Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil:	Land use and crop	2/	Unit	Production	Value of production	Cost of production	Net			
Unit:	distribution	Acres	Per Acre	Total	Per Unit	Total	Per Acre	Total	Return	
All:	Open land	29,152	:	:	:	:	:	:	:	:
:	Crops	26,237	:	3/	:	:	:	:	:	:
:	Cotton	2,624	Lbs.Lint	267	701,185	25	175,296	4/	204,070	10,984
:	Cottonseed	(2,624)	Ton	2405	631.07	63.00	39,758	:	:	:
:	Corn	56	Bu.	30	1,680	1.45	2,436	25.78	1,444	992
:	Rice	10,280	Cwt.	25	257,000	3.75	963,750	87.64	900,939	62,811
:	Soybeans	5,463	Bu.	14	79,152	2.30	182,050	21.35	116,631	65,419
:	Oats (Grain)	3,882	Bu.	21	82,944	.90	74,650	15.32	59,456	15,194
:	Oats (Sup.Past.)	(85)	Lbs.Beef	90	7,650	2005	1,534	7.52	639	895
:	Grain Sorghum	2,403	Bu.	19	45,657	1.53	69,855	18.42	44,263	25,592
:	Perm. Pasture	165	Lbs.Beef	215	35,535	2005	7,125	30.64	5,055	2,070
:	Idle	1,364	:	:	:	:	:	:	:	:
:	Other 1/	2,915	:	:	:	:	:	:	:	:
:	Woodland	4,145	Acres	:	:	6.55	27,150	3.74	15,502	11,648
:	TOTAL	33,297 5/	:	:	:	1,543,604	:	1,347,999	195,605	:

1/ Farms, roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages.
3/ Calculated from Columns 3 and 6; rounded to nearest unit
4/ Calculated from Columns 3 and 10; rounded to nearest cent
5/ Total area zone A reduced by 130 acres urban, 25 acres water, 1,457 acres dedicated to woodland, 15,317 acres already drained, not requiring drainage or not anticipated to be drained, and 5,667 acres woodland not anticipated to be cleared.

Basin: L'Anguille River
Project: Brushy Creek
State: Arkansas

SUMMARY - TABLE IV A
ZONE FOR DRAINAGE CALCULATIONS ONLY
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION
COSTS AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
(Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	<u>2/</u> Acres	Unit	Production	Total	Value of production Per Unit	Total	Cost of production Per Acre	Total	Net Return
Unit	distribution			Per Acre		Dollars	Dollars	Dollars	Dollars	Dollars
All	Open land	33,297								
	Crops	29,968		3/				4/		
	Cotton	4,378	Lbs.Lint	491	2,150,405	25	537,601	134.08	587,021	72,508
	Cottonseed	(4,378)	Ton	4421	1,935.36	63.00	121,928			
	Corn	56	Bu.	40	2,240	1.45	3,248	33.45	1,873	1,375
	Rice	11,742	Cwt.	35	410,970	3.75	1,541,137	111.17	1,305,359	235,778
	Soybeans	6,238	Bu.	20	127,662	2.30	293,623	26.64	166,182	127,441
	Oats (Grain)	3,115	Bu.	37	113,740	.90	102,366	22.45	69,921	32,445
	Oats (Sup.Past.)	(269)	Lbs.Beef	139	37,305	2005	7,479	12.74	3,427	4,052
	Grain Sorghum	2,761	Bu.	19	52,459	1.53	80,262	18.42	50,858	29,404
	Perm. Pasture	180	Lbs.Beef	378	67,965	2005	13,627	50.65	9,117	4,510
	Idle	1,498								
	Other	3,329								
	Woodland									
	TOTAL	33,297	Acres				2,701,271		2,193,758	507,513

1/ Farmsteads, farm roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages
3/ Calculated from Columns 3 and 6; rounded to nearest unit
4/ Calculated from Columns 3 and 10; rounded to nearest cent
5/ Total area zone A reduced by 130 acres urban, 25 acres water, 1,457 acres dedicated to woodland, 15,317 acres already drained, not requiring drainage, or not anticipated to be drained, and 5,667 acres woodland not anticipated to be cleared.

Basin: L'Anguille River
 Project: Brushy Creek
 State: Arkansas

SUMMARY - TABLE II B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1):	(2)	(3)	(4)	(5)	(6)
Soil: Land use and crop	:	2/	:	Production	
Unit: distribution	:	Acres	:	Unit : Per Acre:	Total
All: Open land	:	6,198	:	:	:
: Crops	:	5,578	:	3/	:
: Cotton	:	657	:Lbs.Lint:	260	: 170,965
: Cottonseed	:	(657)	: Ton	: .2342	: 153.86
: Corn	:	90	: Bu.	: 25	: 2,224
: Rice	:	1,532	: Cwt.	: 24	: 36,768
: Soybeans	:	1,503	: Bu.	: 14	: 20,416
: Oats (Grain)	:	744	: Bu.	: 21	: 15,735
: Oats (Sup.Past.)	:	(661)	:Lbs.Beef:	57	: 37,945
: Perm. Pasture	:	670	:Lbs.Beef:	186	: 124,295
: Idle	:	382	:	:	:
: Other 1/	:	620	:	:	:
: Woodland	:	5,170	: Acres	:	:
: TOTAL	:	11,368	:	:	:
:	:	4/	:	:	:

- 1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Total area zone B reduced by 86 acres water.

Basin: L'Anguille River
Project: Brushy Creek
State: Arkansas

SUMMARY - TABLE III B
ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
(Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	2/ Acres	Unit	Production	Value of production	Cost of production	Net			
Unit	distribution	Acres	Per Acre	Total	Per Unit	Total	Per Acre	Total	Return	Dollars
All	Open land	6,547								
	Crops	5,893		3/				4/		
	Cotton	1,178	Lbs.Lint	285	336,205	25	84,051	81.65	96,183	6,930
	Cottonseed	(1,178)	Ton	2569	302.58	63.00	19,062			
	Corn	64	Bu.	30	1,920	1.45	2,784	25.78	1,650	1,134
	Rice	1,658	Cwt.	26	42,853	3.75	160,698	90.00	149,221	11,477
	Soybeans	1,625	Bu.	16	26,391	2.30	60,700	22.88	37,176	23,524
	Oats (Grain)	596	Bu.	24	14,365	.90	12,929	16.53	9,854	3,075
	Oats (Sup.Past.)	(301)	Lbs.Beef	73	21,895	2005	4,390	5.66	1,704	2,686
	Grain Sorghum	35	Bu.	19	665	1.53	1,017	18.42	645	372
	Perm. Pasture	348	Lbs.Beef	222	77,410	2005	15,520	31.52	10,970	4,550
	Idle	389								
	Other	654								
	Woodland	3,511	Acres			6.55	22,997	3.74	13,131	9,866
	TOTAL	10,058 5/					384,148		320,534	63,614
1/	Farmsteads, farm roads, waste and non-agricultural									
2/	Parentnetical amounts are duplicated acreages.									
3/	Calculated from Columns 3 and 6; rounded to nearest unit									
4/	Calculated from Columns 3 and 10; rounded to nearest cent									
5/	Total area zone B reduced by 86 acres water and 1,310 acres woodland not anticipated to be cleared.									

Basin: L'Anguille River
Project: Brushy Creek
State: Arkansas

SUMMARY - TABLE IV B
ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
(Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	2/	Unit	Production	Value of production	Cost of production	Net			
Unit	distribution	Acres	Per Acre	Total	Per Unit	Total	Per Acre	Total	Return	Dollars
All	Open land	10,058								
	Crops	9,053		3						
	Cotton	1,990	Lbs.Lint	457	25	227,430	124.01	246,776		32,235
	Cottonseed	(1,990)	Ton	4114	63.00	51,581				
	Corn	65	Bu.	37	1.45	3,487	30.85	2,005		1,482
	Rice	2,408	Cwt.	33	3.75	296,115	106.20	255,741		40,374
	Soybeans	2,665	Bu.	20	2.30	125,195	26.48	70,566		54,629
	Oats (Grain)	913	Bu.	24	.90	27,951	21.19	19,345		8,606
	Oats (Sup.Past.)	(513)	Lbs.Beef	93	2005	9,592	7.87	4,035		5,557
	Grain Sorghum	48	Bu.	19	1.53	1,395	18.42	884		511
	Perm. Pasture	513	Lbs.Beef	317	2005	32,574	43.19	22,158		10,416
	Idle	451								
	Other	1,005								
	Woodland		Acres							
	TOTAL	10,058				775,320		621,510		153,810

1/ Farmsteads, farm roads, waste and non-agricultural:
2/ Parenthetical amounts are duplicated acreages.
3/ Calculated from Columns 3 and 6; rounded to nearest unit
4/ Calculated from Columns 3 and 10; rounded to nearest cent
5/ Total area zone B reduced by 86 acres water and 1,310 acres woodland not anticipated to be cleared.

Basin: L'Anguille River
 Project: Brushy Creek
 State: Arkansas

TABLE V
 PROJECT AREA SUMMARY BY SOIL MAPPING UNITS

(1) Soil Unit	(2) Acres	(3) Future Without Project (Production in Dollars)	(4) Cost	(5) Net	(6) Future With Project (Production in Dollars)	(7) Cost	(8) Net	(9) Difference in Net Production
8	1,362	51,187	41,679	9,508	101,073	71,339	29,734	20,226
9	1,255	77,186	63,757	13,429	104,340	82,331	22,009	8,580
10	30,680	1,415,231	1,242,563	172,668	2,495,858	2,040,088	455,770	283,102
Subtotal:	33,297	1,543,604	1,347,999	195,605	2,701,271	2,193,758	507,513	311,908
ZONE A - (not subject to flooding)								
8	2,846	53,025	40,706	12,319	199,742	151,165	48,577	36,258
9	804	42,927	34,262	8,665	62,817	49,190	13,627	4,962
9S	353	16,083	11,493	4,590	21,074	15,186	5,888	1,298
10	6,055	272,113	234,073	38,040	491,687	405,969	85,718	47,678
Subtotal:	10,058	384,148	320,534	63,614	775,320	621,510	153,810	90,196
TOTAL:	43,355	1,927,752	1,668,533	259,219	3,476,591	2,815,268	661,323	402,104
ZONE B - (subject to flooding)								
1/	Total area zone A reduced by 130 acres urban, 25 acres water, 1,457 acres dedicated woodland, 15,317 acres already drained, not requiring drainage, or not anticipated to be drained, and 5,667 acres woodland not anticipated to be cleared.							
2/	Total area zone B reduced by 86 acres water, and 1,310 acres woodland not anticipated to be cleared.							

Basin:	<u>L'Anguille River</u>
Project:	<u>Brushy Creek</u>
State:	<u>Arkansas</u>

TABLE VI
LAND CONVERSIONS WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion <u>1/</u>	Total Amount	Cost of Clearing	Cost of Smoothing	Total Cost
	Acres	Dollars	Dollars	Dollars
Per Acre				
W to GC	xx	60	15	xx
W to IC	xx	60	15	xx
W to P	xx	60	xx	xx
P to GC	xx	xx	-	xx
P to IC	xx	xx	-	xx
GC to IC	xx	xx	xx	xx
GC to P	xx	xx	xx	xx
Project				
W to GC	5,264	315,840	78,960	394,800
W to IC	2,212	132,720	33,180	165,900
W to P	180	10,800	xx	10,800
P to GC	-	xx	-	-
P to IC	-	xx	-	-
GC to IC	-	xx	xx	-
GC to P	-	xx	xx	-
Total project	xx	459,360	112,140	571,500
Annual amortized value <u>2/</u>	xx	xx	xx	31,307
Total annual cost of conversions	xx	xx	xx	31,307

1/ W-woodland; GC-general dry-farmed crops; IC-irrigated crops; (rice); P-pasture.

2/ Amortized over 50 years at 5 percent

Basin: L'Anguille River
 Project: Brushy Creek
 State: Arkansas

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Zone	Soil mapping unit and land use	Area	Total Cost Installation	Annual Equivalent Cost	Annual Maintenance Cost	Total Annual Cost
		Acres	Dollars	Dollars	Dollars	Dollars
A.	8 - General crops	858	16,531	2,141	1,907	4,048
	8 - Rice	245	2,115	274	81	355
	8 - Pasture	123	1,890	245	73	318
	9 - General crops	621	8,259	1,070	953	2,023
	9 - Rice	452	3,901	505	150	655
	9 - Pasture	57	464	60	11	71
	10 - General crops	16,567	220,324	28,532	25,422	53,954
	10 - Rice	11,045	91,752	11,882	3,529	15,411
	Subtotal	29,968	345,236	44,709	32,126	76,835
1/	Includes engineering and contingency	3/				
2/	Amortized over 10 years at 5 percent		3/	Does not include 10 percent "other" land.		

Basin: L'Anguille River
 Project: Brushy Creek
 State: Arkansas

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Zone	Soil mapping unit and land use	Area Acres	Total Cost Installation 1/ Dollars	Annual Equivalent Cost 2/ Dollars	Annual Maintenance Cost Dollars	Total Annual Cost Dollars
B	8 - General crops	1,418	27,319	3,538	3,152	6,690
	8 - Rice	266	2,296	297	88	385
	8 - Pasture	89	1,367	177	53	230
	9 - General crops	352	4,681	606	540	1,146
	9 - Rice	77	664	86	26	112
	9 - Pasture	53	431	56	10	66
	10 - General crops	2,207	29,352	3,801	3,387	7,188
	10 - Rice	1,289	10,708	1,387	412	1,799
	10 - Pasture	185	1,536	199	59	258
	Subtotal	5,936 3/4	78,354	10,147	7,727	17,874
	TOTAL	35,904 3/4	423,590	54,856	39,853	94,709

1/ Includes engineering and contingency
 2/ Amortized over 10 years at 5 percent
 3/ Does not include 10 percent "other" land

Basin:	<u>L'Anguille River</u>
Project:	<u>Brushy Creek</u>
State:	<u>Arkansas</u>

TABLE VIII
ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation <u>1/</u>				
Shaping or spreading spoil <u>1/</u>				
Clearing right-of-way <u>1/</u>	Cubic Yard	2,480,550	0.18	446,499
Right-of-way easements	Acres	427	15.00	6,405
Crossings	Each	99	300.00	29,700
Swinging water gaps	Each	63	50.00	3,150
Pipe drop structures	Each	126	150.00	18,900
Flap gates	Each	30	100.00	3,000
Vegetative plantings	Acres	128	8.00	1,024
Total construction cost	xx	xx	xx	508,678
Engineering cost	xx	xx	xx	50,868
Contingencies and legal	xx	xx	xx	50,868
Total installation cost				610,414
Annual equivalent - installation cost (Amortized for 20 years at $3\frac{1}{2}$ percent)				42,949
Annual maintenance cost				25,434
Annual loss of production-right-of-way <u>2/</u>				828
Total annual cost of required group facilities				69,211

1/ These items included in excavation costs under normal contract procedures.

2/ Annual loss of production - right-of-way. 171 acres @ \$4.84 per acre.

Basin: L'Anguille River
 Project: Brushy Creek
 State: Arkansas

TABLE IX
 SUMMARY OF ANNUAL NET PRODUCTION RETURNS
 AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted
	Dollars	Amount
		Dollars
1. Net return with project	661,323	xx
2. Net return without project	259,219	xx
3. Gross benefit to project	402,104	222,347 <u>2/</u>
4. Farm drainage cost	xx	xx <u>2/</u>
a. Installation cost	54,856	xx
b. Maintenance cost	39,853	xx
c. Total	94,709	52,370
5. Group drainage cost	xx	xx <u>3/</u>
a. Installation cost	42,949	xx
b. Maintenance cost <u>1/</u>	26,262	xx
c. Total	69,211	51,903
6. Conversion cost	xx	xx <u>2/</u>
a. Installation cost	31,307	xx
b. Maintenance cost	-	xx
c. Total	31,307	17,312

- 1/ Includes loss of production, right-of-way
2/ Discounted at 5 percent to account for estimated 25 year lag
 to full installation, maintenance, and benefit accrual.
3/ Discounted at $3\frac{1}{2}$ percent to account for estimated 15 year lag
 to full installation, maintenance, and benefit accrual.

Basin: L'Anguille River

Project: First Creek

State: Arkansas

TABLE I
PRESENT LAND USE

Zone	Soil map- ping unit	Open (Acres)	Wooded (Acres)	Urban (Acres)	Water (Acres)	Total (Acres)
Zone A	9	4,660	4,331	-	-	8,991
	9S	5,353	2,217	-	-	7,570
	10	18,172	16,266	-	-	34,438
Subtotal - all soils		28,185	22,814	-	-	50,999
Urban		-	-	26	-	26
Water		-	-	-	-	-
Total - Zone A		28,185	22,814	26	-	51,025
Zone B	8	164	1,444	-	-	1,608
	9	328	139	-	-	467
	9S	385	534	-	-	919
	10	1,080	1,291	-	-	2,371
Subtotal - all soils		1,957	3,408	-	-	5,365
Urban		-	-	-	-	-
Water		-	-	-	58	58
Total - Zone B		1,957	3,408	-	58	5,423
GRAND TOTAL - Project		30,142	26,222	26	58	56,448

Basin: L'Anguille River

Project: First Creek

State: Arkansas

SUMMARY - TABLE II A
ZONE FOR DRAINAGE CALCULATIONS ONLY
COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop	<u>2/</u>	Production		
Unit	distribution	Acres	Unit	Per Acre	Total
All	Open land	17,027			
	Crops	15,324		<u>3/</u>	
	Cotton	2,326	Lbs.Lint:	271	630,710
	Cottonseed	(2,326)	Ton	2440	567.63
	Corn	801	Bu.	23	18,169
	Rice	3,262	Cwt.	24	78,288
	Soybeans	3,061	Bu.	14	42,376
	Oats (Grain)	1,570	Bu.	21	33,460
	Oats (Sup.Past.)	(1,177)	Lbs.Beef:	59	69,370
	Perm. Pasture	2,496	Lbs.Beef:	180	449,280
	Idle	1,808			
	Other <u>1/</u>	1,703			
	Woodland	20,597	Acres		
	TOTAL	37,624 <u>4/</u>			

1/ Farmsteads, farm roads, waste and non-agricultural

2/ Parenthetical amounts are duplicated acreages

3/ Calculated from Columns 3 and 6; rounded to nearest unit

4/ Total area Zone A reduced by 26 acres urban and 13,375 acres already drained or not requiring drainage.

Basin: L'Anguille River
 Project: First Creek
 State: Arkansas

SUMMARY - TABLE III A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION
 COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	Acres	Unit	Production	Value of production	Cost of production	Net	Return		
Unit	distribution			Per Acre	Total	Per Unit	Total	Per Acre	Total	Return
ALL	Open land	12,467								
	Crops	11,221								
	Cotton	2,513	Lbs. Lint	292 <u>3/</u>	734,455	.25	183,614	82.75 <u>4/</u>	207,943	17,315
	Cottonseed	(2,513)	Ton	.2630	661.01	63.00	41,644			
	Corn	134	Bu.	30	4,020	1.45	5,829	25.78	3,455	2,374
	Rice	3,623	Cwt.	25	90,575	3.75	339,656	87.64	317,520	22,136
	Soybeans	1,495	Bu.	15	22,650	2.30	52,095	21.89	32,730	19,365
	Oats (Grain)	1,069	Bu.	23	24,384	.90	21,946	15.98	17,083	4,863
	Oats (Sup. Past.)	(855)	Lbs. Beef	64	54,550	.2005	10,938	4.70	4,017	6,921
	Grain Sorghum	107	Bu.	20	2,140	1.53	3,274	19.04	2,037	1,237
	Perm. Pasture	1,122	Lbs. Beef	197	220,970	.2005	44,304	27.85	31,244	13,060
	Idle	1,158								
	Other: <u>1/</u>	1,246								
	Woodland	10,876	Acres			7.13	77,546	3.59	39,045	38,501
	TOTAL	23,343 <u>5/</u>					780,846		655,074	125,772

- 1/ Farmsteads, farm roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages
3/ Calculated from Columns 3 and 6; rounded to nearest unit
4/ Calculated from Columns 3 and 10; rounded to nearest cent
5/ Total area Zone A reduced by 26 acres urban, 9,721 acres woodland not anticipated to be cleared, and 17,935 acres already drained, not requiring drainage or not anticipated to be drained.

Basin: L'Anguille River
Project: First Creek
State: Arkansas

SUMMARY - TABLE IV A
ZONE FOR DRAINAGE CALCULATIONS ONLY
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
(Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil Unit	Land use and crop distribution	Acres	Unit	Production Per Acre	Total	Value of production Per Unit	Total	Cost of production Per Acre	Total	Net Return
ALL	Open land	23,343								
	Crops	21,009								
	Cotton	4,625	Lbs.	525 ^{3/}	2,426,290	.25	606,572	145.58	673,295	70,847
	Cottonseed	(4,625)	Ton	4721	2,183.66	63.00	137,570			
	Corn	211	Bu.	40	8,440	1.45	12,238	33.45	7,058	5,180
	Rice	6,807	Cwt.	35	238,245	3.75	893,418	111.17	756,734	136,684
	Soybeans	2,855	Bu.	20	57,776	2.30	132,885	26.49	75,637	57,248
	Oats (Grain)	2,016	Bu.	37	73,928	.90	66,535	22.52	45,408	21,127
	Oats (Sup. Past.)	(1,538)	Lbs. Beef	98	150,250	.2005	30,125	8.34	12,833	17,292
	Grain Sorghum	169	Bu.	20	3,380	1.53	5,171	19.04	3,218	1,953
	Perm. Pasture	2,101	Lbs. Beef	340	714,340	.2005	143,225	46.05	96,751	46,474
	Idle	2,225								
	Other ^{1/}	2,334								
	Woodland	-	Acres							
	TOTAL	23,343 ^{5/}					2,027,739		1,670,934	356,805

- ^{1/} Farmsteads, farm roads, waste and non-agricultural
- ^{2/} Parenthetical amounts are duplicated acreages
- ^{3/} Calculated from Columns 3 and 6; rounded to nearest unit
- ^{4/} Calculated from Columns 3 and 10; rounded to nearest cent
- ^{5/} Total area Zone A reduced by 26 acres urban, 9,721 acres woodland not anticipated to be cleared, and 17,935 acres already drained, not requiring drainage, or not anticipated to be drained.

Basin: L'Anguille River

Project: First Creek

State: Arkansas

SUMMARY - TABLE II B
ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop	<u>2/</u>	Production		
Unit	distribution	Acres	Unit	Per Acre	Total
All	Open land	1,957			
	Crops	1,762		<u>3/</u>	
	Cotton	229	Lbs.Lint	295	67,555
	Cottonseed	(229)	Ton	.2655	60.80
	Corn	89	Bu.	25	2,187
	Rice	306	Cwt.	27	8,292
	Soybeans	347	Bu.	16	5,578
	Oats (Grain)	159	Bu.	25	3,908
	Oats (Sup.Past.)	(81)	Lbs.Beef	70	5,690
	Perm. Pasture	384	Lbs.Beef	214	82,350
	Idle	248			
	Other <u>1/</u>	195			
	Woodland	3,408	Acres		
	TOTAL	5,365 <u>4/</u>			

1/ Farmsteads, farm roads, waste and non-agricultural

2/ Parenthetical amounts are duplicated acreages

3/ Calculated from Columns 3 and 6; rounded to nearest unit

4/ Total area Zone B reduced by 58 acres water.

Basin: L'Anguille River
Project: First Creek
State: Arkansas

SUMMARY - TABLE III B
ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
(Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	Acres	Unit	Production	Value of production	Cost of production	Net	Return		
Unit	distribution			Per Acre	Total	Per Unit	Total	Per Acre	Total	Dollars
ALL	Open land	2,201								
	Crops	1,981								
	Cotton	395	Lbs. lint	361	142,765	25	35,691	98.01	38,714	5,072
	Cottonseed	(395)	Ton	3253	128,49	63.00	8,095			
	Corn	52	Bu.	33	1,708	1.45	2,477	27.71	1,441	1,036
	Rice	481	Cwt.	29	13,949	3.75	52,309	97.71	46,998	5,311
	Soybeans	328	Bu.	17	5,643	2.30	12,979	23.80	7,807	5,172
	Oats (Grain)	187	Bu.	28	5,204	.90	4,683	18.22	3,408	1,275
	Oats (Sup. Past.)	(136)	Lbs. Beef	79	10,700	2005	2,145	6.29	856	1,289
	Grain Sorghum	47	Bu.	19	909	1.53	1,391	18.64	876	515
	Perm. Pasture	258	Lbs. Beef	283	73,070	2005	14,650	39.10	10,087	4,563
	Idle	233								
	Other	220								
	Woodland	2,077	Acres			7.13	14,809	3.59	7,457	7,352
	TOTAL	4,278					149,229		117,644	31,585

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area Zone B reduced by 58 acres water and 1,087 acres woodland not anticipated to be cleared.

Basin: L'Anguille River
 Project: First Creek
 State: Arkansas

SUMMARY - TABLE IV B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil : Land use and crop	Acres	2/	Unit	Production	Total	Value of production	Total	Cost of production	Total	Net Return
Unit : distribution	Acres			Per Acre	Total	Per Unit	Total	Per Acre	Total	Return
ALL : Open land	4,278									
: Crops	3,851									
: Cotton	744		Lbs. Lint	447 ^{3/}	332,890	.25	83,222	120.28	89,488	12,608
: Cottonseed	(744)		Ton	.4027	299.60	63.00	18,874			
: Corn	123		Bu.	34	4,182	1.45	6,064	28.46	3,501	2,563
: Rice	966		Cwt.	33	31,640	3.75	118,650	106.12	102,510	16,140
: Soybeans	605		Bu.	20	12,282	2.30	28,248	26.39	15,965	12,283
: Cats (Grain)	372		Bu.	34	12,539	.90	11,285	21.04	7,827	3,458
: Oats (Sup. Past.)	(267)		Lbs. Beef	92	24,555	2.005	4,923	7.72	2,062	2,861
: Grain Sorghum	103		Bu.	20	2,051	1.53	3,138	18.99	1,956	1,182
: Perm. Pasture	463		Lbs. Beef	325	150,555	2.005	30,186	44.23	20,480	9,706
: Idle	475									
: Other <u>1/</u>	427									
: Woodland	-		Acres							
: TOTAL	4,278	5/					304,590		243,789	60,801

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area Zone B reduced by 58 acres water and 1,087 acres woodland not anticipated to be cleared.

Basin: L'Anguille River
 Project: First Creek
 State: Arkansas

TABLE V
 PROJECT AREA SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil Unit	Acres	Gross	Cost	Net	Gross	Cost	Net	Difference in Net Production
		Future Without Project (Production in Dollars)			Future With Project (Production in Dollars)			
ZONE A - (not subject to flooding)								
9	4,698	216,604	178,825	37,779	464,603	385,606	78,997	41,218
10	18,645	564,242	476,249	87,993	1,563,136	1,285,328	277,808	189,815
Subtotal	23,343 <u>1/</u>	780,846	655,074	125,772	2,027,739	1,670,934	356,805	231,033
ZONE B - (subject to flooding)								
8	1,054	14,327	8,709	5,618	63,492	48,528	14,964	9,346
9S	772	30,606	22,390	8,216	50,687	38,063	12,624	4,408
10	2,452	104,296	86,545	17,751	190,411	157,198	33,213	15,462
Subtotal	4,278 <u>2/</u>	149,229	117,644	31,585	304,590	243,789	60,801	29,216
TOTAL	27,621	930,075	772,718	157,357	2,332,329	1,914,723	417,606	260,249

1/ Total area Zone A reduced by 26 acres urban, 9,721 acres woodland not to be cleared, and 17,935 acres already drained, not anticipated to be drained, or not requiring drainage.

2/ Total area Zone B reduced by 58 acres water and 1,087 acres woodland not anticipated to be cleared.

Basin: L'Anguille River

Project: First Creek

State: Arkansas

TABLE VI
LAND CONVERSIONS WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion <u>1/</u>	Total : Amount:	Cost : of Clearing:	Cost : of Smoothing:	Total : Cost
	<u>Acres</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>
Per Acre				
W to GC	xx:	60:	15:	xx
W to IC	xx:	60:	15:	xx
W to P	xx:	60:	xx:	xx
P to GC	xx:	xx:	- :	xx
P to IC	xx:	xx:	- :	xx
GC to IC	xx:	xx:	xx:	xx
GC to P	xx:	xx:	xx:	xx
Project				
W to GC	8,100:	486,000:	121,500:	607,500
W to IC	3,669:	220,140:	55,035:	275,175
W to P	1,184:	71,040:	xx:	71,040
P to GC	- :	xx:	- :	-
P to IC	- :	xx:	- :	-
GC to IC	- :	xx:	xx:	-
GC to P	- :	xx:	xx:	-
Total project	xx:	777,180:	176,535:	953,715
Annual amortized value <u>2/</u>	xx:	xx:	xx:	52,245
Total annual cost of conversions	xx:	xx:	xx:	52,245

1/ W-woodland; GC-general dry-farmed crops; IC-irrigated crops; (rice); P-pasture.

2/ Amortized over 50 years at 5 percent.

TABLE VII

ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

TABLE VII

ARM DRAINAGE SYSTEM COSTS

Zone	Soil mapping unit and land use	Acres	Total Cost Installation $\frac{1}{2}$	Annual Equivalent Cost $\frac{2}{2}$	Annual Maintenance Cost	Total Annual Cost
A	9 - General crops	2,536	33,726	4,368	3,891	8,259
	9 - Rice	1,269	10,954	1,419	421	1,840
	9 - Pasture	423	3,443	446	79	525
	10 - General crops	9,565	127,205	16,473	14,677	31,150
	10 - Rice	5,538	46,005	5,958	1,769	7,727
Subtotal	10 - Pasture	1,678	13,938	1,805	536	2,341
		21,009 $\frac{3}{4}$	235,271	30,469	21,373	51,842
B	8 - General crops	388	7,475	968	862	1,830
	8 - Rice	154	1,330	172	51	223
	8 - Pasture	28	430	56	17	73
	10 - General crops	733	9,749	1,262	1,125	2,387
	10 - Rice	425	3,531	457	136	593
Subtotal	10 - Pasture	129	1,071	139	41	180
		1,857 $\frac{3}{4}$	23,586	3,054	2,232	5,286
TOTAL		22,866 $\frac{3}{4}$	258,857	33,523	23,605	57,128

- 100 -

- 1/ Includes engineering and contingency
- 2/ Amortized over 10 years at 5 percent
- 3/ Does not include 10 percent "other" land.

Basin: L'Anguille River
 Project: First Creek
 State: Arkansas

TABLE VIII
 ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation <u>1/</u>				
Spreading spoil <u>1/</u>				
Clearing right-of-way <u>1/</u>	Cubic Yard	1,499,500	0.18	269,910
Right-of-way easements	Acres	267	15.00	4,005
Crossings	Each	70	300.00	21,000
Swinging water gaps	Each	45	50.00	2,250
Pipe drop structures	Each	90	150.00	13,500
Flap gates	Each	15	100.00	1,500
Vegetative plantings	Acres	134	8.00	1,072
Total construction cost	xx	xx	xx	313,237
Engineering cost	xx	xx	xx	31,324
Contingencies & legal	xx	xx	xx	31,324
Total installation cost				375,885
Annual equivalent - installation cost (amortized for 20 years at $3\frac{1}{2}$ percent)				26,447
Annual maintenance cost				15,662
Annual loss of production - right-of-way <u>2/</u>				584
Total annual cost of required group facilities				42,693

1/ These items included in excavation costs under normal contract procedures.

2/ Annual loss of production -right-of-way. 107 acres @ \$5.46 per acre.

Basin: L'Anguille River
 Project: First Creek
 State: Arkansas

TABLE IX
 SUMMARY OF ANNUAL NET PRODUCTION RETURNS
 AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted Amount
	Dollars	Dollars
1. Net return with project	417,606	xx
2. Net return without project	157,357	xx
3. Gross benefit to project	260,249	143,907 <u>2/</u>
4. Farm drainage cost	xx	xx <u>2/</u>
a. Installation cost	33,523	xx
b. Maintenance cost	23,605	xx
c. Total	57,128	31,589
5. Group drainage cost	xx	xx <u>3/</u>
a. Installation cost	26,447	xx
b. Maintenance cost <u>1/</u>	16,246	xx
c. Total	42,693	32,016
6. Conversion cost	xx	xx <u>2/</u>
a. Installation cost	52,245	xx
b. Maintenance cost	-	xx
c. Total	52,245	28,889

1/ Includes loss of production, right-of-way

2/ Discounted at 5 percent to account for estimated 25 year lag to full installation, maintenance, and benefit accrual.

3/ Discounted at 3½ percent to account for estimated 15 year lag to full installation, maintenance, and benefit accrual.



